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TRANSACTIONS

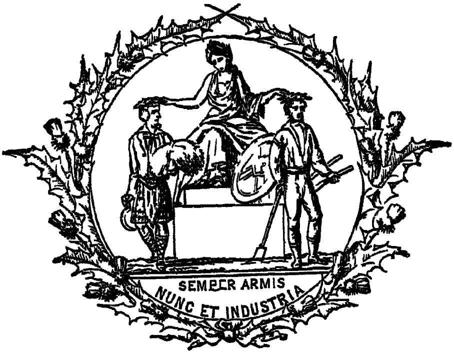
OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

WITH

AN ABSTRACT OF THE PROCEEDINGS AT BOARD AND GENERAL
MEETINGS, AND THE PREMIUMS OFFERED BY
THE SOCIETY IN 1907

PUBLISHED ANNUALLY



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TRANSACTIONS

OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

THE FUTURE OF BRITISH WOODLANDS.

By the Right Hon. Sir HERBERT MAXWELL, Bart.

THE rapid diminution in the visible supply of timber in the world and the simultaneous and enormous increase in consumption have combined to force the economic importance of forests and woodlands upon the attention of most civilised Governments. State action has been taken in Germany, France, Belgium, Sweden, and Russia, and private enterprise has not been wanting in all these countries.

Specially noteworthy is the far-sighted policy both of the Government and of private owners of woodland in Germany. The average annual value of the produce of German forests is estimated at about £22,000,000, notwithstanding which Germany has for some years back been importing timber at the rate of 4,500,000 tons per annum, valued at nearly £15,000,000. Now Germany at no distant date was one of the principal sources of our own timber imports: how comes it that she has not only ceased to export, but has become such a large customer in foreign markets? For two reasons: first, because of the enormous recent expansion of German industry; and, second, because so long as she can obtain timber at a reasonable price abroad, her people spare their own forests, well knowing that, at no distant date, the price of timber *must be enormously enhanced,* and that every cubic foot added to the standing crop will be doubled or trebled in value.

In view of these conditions, what are we doing in Great Britain and Ireland to meet the coming scarcity by developing our resources? In truth, we have hardly passed the stage of inquiry. Forestry operations are notoriously slow, but surely a quarter of a century is an exorbitant draft upon time to be spent upon inquiry. During the five-and-twenty years when I was in Parliament, two committees were appointed by the Government to inquire into the condition of British forestry and to recommend means for its improvement. Both of these reported that large areas of waste land were available for forestry purposes, and recommended that provision should be made for sound technical instruction in wood-craft. A single sentence from the report of the later committee will suffice to give anxious thought to anybody who concerns himself about our commercial future—

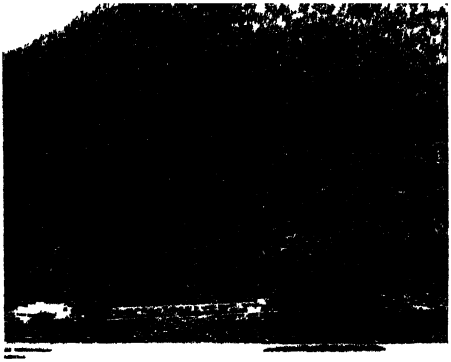

Fig. 1.—Forest of Douglas Fir and Thuya at Benmore, Argyllshire.

> "The world is rapidly approaching a shortage, if not an actual dearth, in its supply of coniferous timber, which constitutes between 80 and 90 per cent of the total British timber imports.'

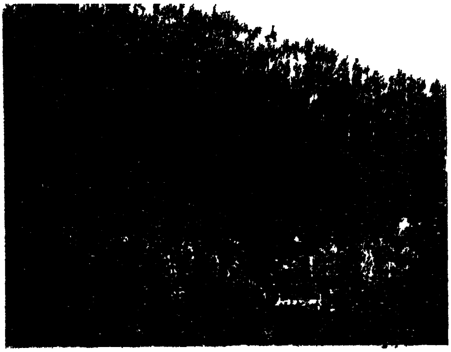

Fig. 2.—Forest of Douglas Fir and Thuya at Benmore, Argyllshire.

Time is slipping away, and, although the Board of Agriculture and the Commissioners of Woods and Forests have been looking about for suitable land upon which to commence systematic State forestry, they have not secured a single acre. It is true that a forest school has been started in the Forest of Dean, that a forestry branch has been added to some of the Colleges of Agriculture, and that the University of Edinburgh has provided instruction in forestry for a number of years past. This is good so far as it goes, but it is a mere nibble at a great subject, and nibbling in such matters is a costly process. The Government should be to the nation what officers are to their men. It is no use saying "Go on!" they must set the example and cry "Come on!" Against all that the State has done must be set the direct discouragement to private enterprise imposed by the rating of growing woodland before it can yield a penny of revenue, as enacted in 1874, and by the Act of 1894, which caused growing wood to be valued for death duties "in such manner and by such means as the Commissioners think fit."

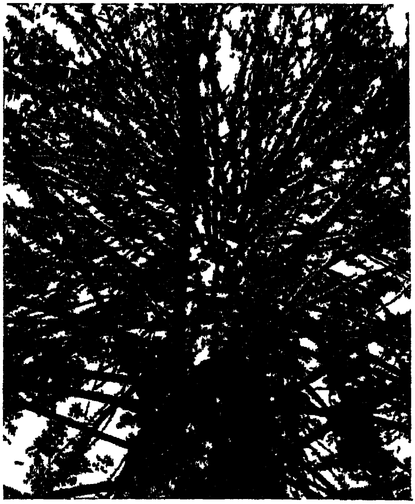

Fig 3 —*Fir ruined by isolation.*

Fig 4 —*The Major Oak, Sherwood Forest.*

In order to bring a survey of this big subject into reasonable limits, I shall dispose of it under five heads—

1. The Consumption of Timber and Wood Products in the United Kingdom.
2. British Climate and Soil.
3. Present Condition of British Woodlands.
4. What the State may do.
5. What Private Owners may do.

1. *The Consumption of Timber and Wood Products in the United Kingdom.*

The following table shows the immense scale upon which we import, and the vast increase in annual consumption during the last twenty years:—

IMPORTS TO UNITED KINGDOM	1882	1902.
Wood and timber—	£	£
Hewn	5,200,000	5,400,000
Sawn	10,800,000	17,100,000
Manufactured	300,000	1,400,000
	16,300,000	23,900,000
Wood products—		
Paper, mostly made of wood pulp .	1,200,000	4,500,000
Paper materials, mostly wood pulp .	2,000,000	3,300,000
	19,500,000	31,700,000

But, it may be said, a great deal of this foreign wood could not be grown in this country. Not so much as might be supposed. Of the total value of timber imported in 1902—namely, £23,900,000—about £19,000,000 worth was coniferous timber such as, I hope to show, might be grown in the British Isles under a proper system of forestry. So also might be produced the £8,000,000 worth of paper and paper material which we imported in 1902, for pulp wood is far easier grown than mature timber; but there is not a single pulping mill or cellulose factory in the United Kingdom.

Fig 5.—*Wind Elm at Shaugham, Devon*

"The first wood-pulp factory was started in Saxony about 1854, and the first cellulose factory about 1874. There are now *in Germany alone*, to say nothing of Austria, Sweden, and Norway, over 600 pulp mills using nearly 36,000,000 cubic feet of wood [per annum], and 71 cellulose factories consuming about 30,000,000 cubic feet. And these are still comparatively new industries, capable of enormous expansion, and likely in time to raise the price of the softer woods suited for this trade—willow, poplar, birch, lime, and the softer conifers."[1]

---

[1] 'The Forester,' by John Nisbet (1905), vol. i. p. 85.

A sad want of enterprise, it may be thought, in British capitalists that none of them has ventured to erect a pulping mill, which have proved such an excellent investment in foreign countries, and the produce of which is so essential to British manufactures. It would be an act of inordinate folly to go to the expense of erecting a pulping mill in this country until security could be had for a liberal and *regular* supply of wood for pulping. That is precisely what cannot be secured under our present want of system. A mill might be erected and run bravely for two or three years maybe; then suddenly the supply would cease, because no neighbouring landlord had any wood to fell, or because nobody was disposed to fell the wood he had on his property.

Fig 6—*Horse Chestnut, Slene House*

Similar uncertainty in supply is the cause of disappointment in all branches of the home timber trade. Despite the incessant and growing demand for timber, the complaint is commonly heard from landowners that they cannot dispose of fine timber even when it is offered. Last summer I visited an Irish estate famous for the beauty and rarity of some of its trees. The owner complained to me that he had been unable to get more than 3s. 6d. a ton for a lot of fine Scots pine, eighty to ninety years old, which he had felled. Now a ton of mature

Fig 7—*The Capon Oak, Jedburgh*

Scots pine contains from 28 to 30 cubic feet; my friend, therefore, was disposing of timber at 1¼d. a foot, which ought to have brought him 6d. a foot, had he established a good business connection, without which no productive industry can prove remunerative. An owner of woodland must not offer fifty trees one year, five thousand the next, and none in the third, and expect that purchasers will suit their wants to his convenience. Until British woodlands have been brought into regular rotation, and supply timber of uniform quality and regular annual quantity, timber merchants will resort to those countries where such conditions are fulfilled.

Fig. 8.—*Well-grown Oak, New Forest.*

It is worth while to make the attempt to bring our woodlands into a sound productive state. There is not the slightest prospect of falling off in the present enormous consumption of wood and wood products in the United Kingdom, so long as we retain our position as a great manufacturing community. Indeed that position depends very largely upon the command of an ample supply of timber at a reasonable price, and the annual rise in price of foreign timber which has been in progress for a number of years bids fair to reach a prohibitive figure at no distant time. Is it not, therefore, common prudence and patriotism that should prompt our statesmen to look a little beyond the exigencies of the platform, and make some preparation for the commercial needs of the future?

Fig. 9.—*Self-sown Oak at Thornbury, Gloucestershire.*

2. *British Climate and Soil*

I turn now to the second consideration mentioned—British climate and soil in relation to timber production

The most common objections raised against forestry enterprise in the United Kingdom are, that climatic conditions are unfavourable, and that profitable forestry is impossible owing to the storms which sweep over these islands.

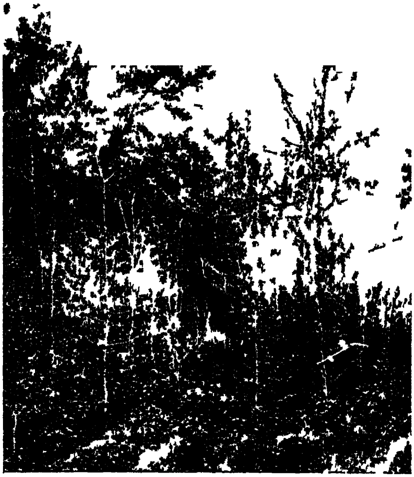

Fig 10 —*Natural Regeneration, Ashampstead Common*

To take the last-mentioned objection first, it may carry some weight when it can be shown, as it has not been hitherto, that atmospheric disturbance is more violent and frequent in Great Britain than it is in the United States, Canada, Scandinavia, Russia, and Germany. Granted that our proportion of exposed seaboard is excessive, where profitable planting cannot be undertaken, all our inland and mountainous regions were once covered with dense, primitive forest, which was cleared away to give room for pasture and agriculture. It is true that British woodlands, such as they are, suffer more from wind damage than Continental forests do, not because our gales are more furious and frequent than elsewhere, but for two reasons —*first*, because our woods are laid out almost invariably in small blocks and clumps, or in narrow strips, with a view to game, ornament, or shelter. A thousand *con-*

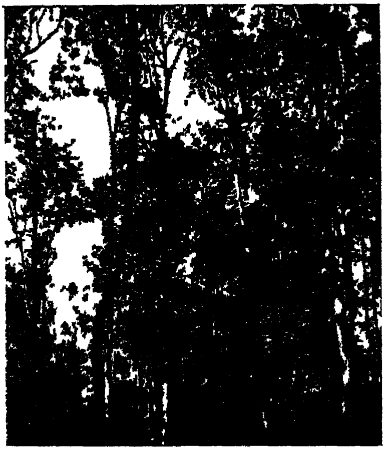

Fig. 11 —*Self sown Ash, Buckhold, Berks.*

tiguous acres of wood will offer far greater resistance to storm than 1000 acres scattered over an estate of 10,000 acres. Two of the most valuable coniferous trees in the world are the Douglas fir (*Pseudotsuga Douglasi*) and *Thuya gigantea.* They agree admirably with our climate, but they have found little favour as yet with British planters, except as ornamental specimens, because they outstrip the other trees in rapidity of growth, and the tops get blown to pieces. But plant them close in large masses, and they protect each other. The only example of their capacity in this respect in the British Isles may be seen at Benmore, in Argyllshire, where an area of 2000 acres was planted almost exclusively with these trees from twenty-eight to thirty-six years ago (figs. 1 and 2). The west coast of Scotland is notably a stormy region, yet this great woodland is a joy to behold. Of the commercial value of British-grown Douglas fir I shall give an example presently.

Fig 12 —*Self-sown Beech, Germany.*

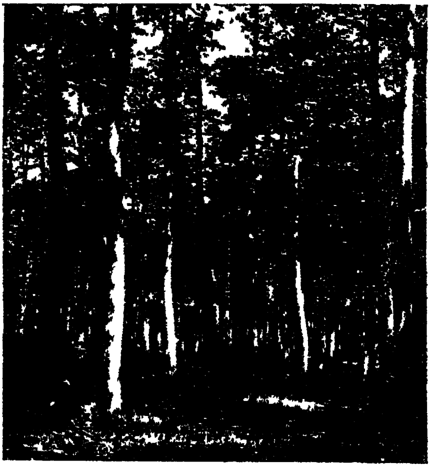

Fig 13 —*French Oak Forest, ripe for felling*

Second, because the vice of overthinning established itself three hundred years ago in England and continues to the present day. Trees that have been encouraged to grow spreading heads out of all due proportion to their height must succumb to a storm which might be lifted harmlessly over a 1000-acre block of continuous canopy. This constitutes one of the chief obstacles to woodland reform in this country, as I can sorrowfully testify from my own experience.

The problem must continually present itself to him who wants to start his woodland upon a scientific and soundly commercial system — Must I clear away the old rough-spreading trees? or can I by judicious underplanting with beech, silver fir, and *Thuya gigantea* start gradual regeneration? This is a matter for advice from an expert. The only advice I shall venture to give is this: first find your expert, which is not a difficult matter now, and, having obtained his advice, *follow it.*

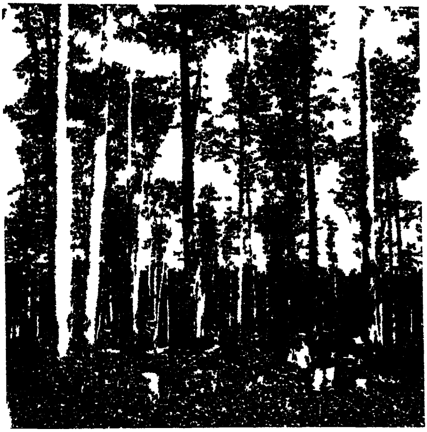

Fig 14 —*French Oak Forest, three years after first felling*

Now, as to British climate and soil, nothing can be more groundless than complaints as to their unsuitability for forest growth. Did space permit, the favourable opinion of many Continental experts might be quoted. They are as unanimous in their approval, and even in their envy, of our circumstances in this respect as in amazement at our neglect of them. Instead of quoting these authorities, I submit a few examples of forest growth in Britain compared with Continental examples.

Fig 15 —*Oak Saplings in French Forest*

So much for growth: now for the question of profit. I have alluded above to the qualities of the Douglas fir as a forest tree. As usually planted in this country, set out as a lawn specimen or dotted about among other trees, it throws out strong side branches, utterly ruining its value as timber, presenting, when you look upwards into the mass, the appearance shown in fig. 3.

Fig 16.—Oak Saplings in French Forest.

The following example of the commercial capacity of Douglas fir in the United Kingdom is far from ideal in respect to conditions of growth and culture, but it is the best that our country can show at an age of more than forty years.

In 1860 eight acres were planted at Taymount with 2416 Douglas fir and 7264 larch. Twenty years later all the larch had been cut out, and in 1887 the great mistake was committed of cutting 620 Douglas fir (sold for £34). The remaining 1796 trees threw out strong side branches, to the great detriment of the timber. Nevertheless, in 1900, forty years after planting, a Perth timber merchant offered 9d. a foot for the lot standing—the price of larch at that time being 1s. and of Scots pine 6d. a foot. This offer, which was not accepted, amounted to about £1600 for the crop, or £200 an acre, representing a gross rent of £5 an acre during the forty years of growth. Deduct from this the expense of planting and thinning, and compound interest on the capital locked up, include grazing value at 2s. an acre, but add the price of thinnings sold, and the net result is very satisfactory.

Fig 17.—French Oak Forest, first felling

The capabilities of Douglas fir have not yet been fairly tested in this country, but there is little doubt that it is destined to work a revolution in British forestry as complete as that wrought by larch in the eighteenth century.

It may be safely assumed from the examples I have given that there is no physical obstacle to the profitable growth of coniferous timber in the greater part of the British Isles. Coming to deciduous trees or hardwood, one is confronted by the difficulty of finding in the United Kingdom examples of well-managed forest of oak, elm, beech, or ash.

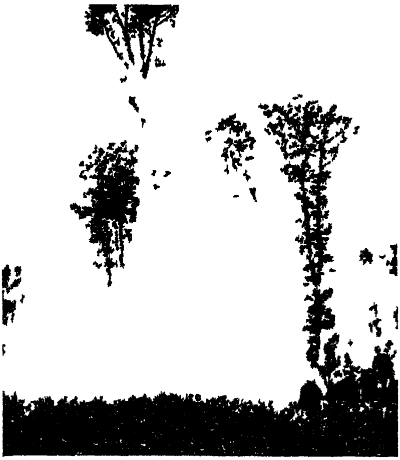

Fig 18.—*Final Felling of French Oak Forest.*

3. *Present Condition of British Woodlands.*

John Evelyn must be held responsible for having prescribed excessive thinning in his famous and delightful 'Discourse on Forest Trees' (1664).

> "I conceive," said he, "that it were better to plant trees at such distances as they may least incommode one another. For timber trees, I would have none nearer than forty feet where they stand closest, especially of the spreading kind."

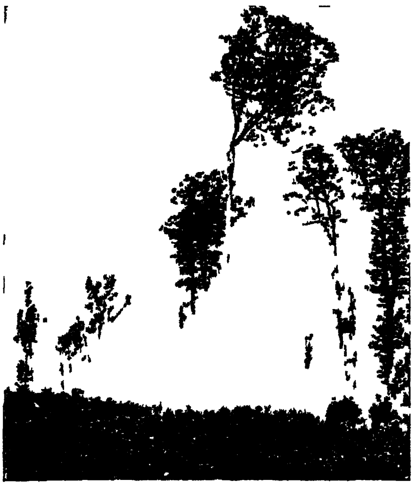

Fig. 19.—*Final Felling of French Oak Forest.*

Now, such treatment is plainly incompatible with the production of clean, straight stems. But, in fact, Englishmen did not want clean, straight timber in Evelyn's day, nor for long after. What was most in request was crooked oak for the navy, and the tradition has been perpetuated to our own times, when ships are built of iron, by such teachers as Brown and Michie. Thus for generations we have been aiming at an ideal which we must abandon if we are to develop our forestry resources. We must cease to frame our notion of an oak upon such a magnificent deformity as the Major Oak (fig. 4) in Sherwood Forest; or the Wych Elm at Sharpham, near Totnes (fig. 5), measuring 80 feet high, girthing 18 feet at 6 feet from ground, covering ¼ acre of ground, and having one branch 104 feet long; or the great Chestnut at Skene House (fig. 6); or the Capon Oak at Jedburgh (fig. 7).

Fig. 20.—P[illegible] [illegible]dge.

That we can grow fine straight oak if we choose may be seen from an example in the New Forest (fig. 8),—a domain which, unhappily, Parliament will not permit the Office of Woods and Forests to treat on right principles, but has decreed that it is to be kept as a hybrid between a vast tea-garden and a village common. British soil is kindly enough for *natural reproduction* of the finest timber: witness this example (fig. 9) of self-sown oak at Thornbury, in Gloucestershire, about forty years old. Again, in fig. 10 is shown natural regeneration going forward on Ashampstead Common,—young beech, oak, and ash in thin high wood; and in fig. 11, a crop of self-sown ash, eighty years old, at Buckhold, Berks, which sprang up after the ground had been cleared of beech and silver fir.

Fig. 21.—*Park Scenery at Ashridge*

Ash is probably at the present time the most profitable timber that can be grown in the United Kingdom, where the soil is of a good nature. British ash is superior in quality to any other; the supply has run very short; the timber is marketable at almost all ages, and reaches commercial maturity at eighty or ninety years; whereas oak does not reach its full value under 120 to 200 years.

Fig. 12 is an example of self-sown beech at Inveraray, in Argyllshire,—a rough specimen, but sufficing to show that the soil is capable of producing a liberal crop when it gets a chance.

The fact is, that to obtain good examples of the management of deciduous forest one must go to the Continent. In fig. 13 is shown a French forest of sessile-flowered oak ripe for felling. The foreground has been cleared of timber already, and may be seen to be covered with seedlings. In fig. 14 the same seedlings appear in their third year; in fig. 15 they have grown to ten or twelve years old; and in fig. 16 they appear as poles, twenty to twenty-five years' growth. Next follows the first felling (fig. 17), leaving standards to propagate themselves by seed; and in figs. 18 and 19 is shown the final fall. (Note, in fig. 19, how the photographer has caught the head of the tree in the act of falling.) That is a fair example of extreme scientific treatment in close forest. I do not advocate its uniform application to all British hardwoods. It is well known, for instance, that British beech is superior to Continental because the trees are grown less close together, and the timber develops better quality and strength than that grown in close forest.

Fig. 22.—*Park Scenery at Ashridge.*

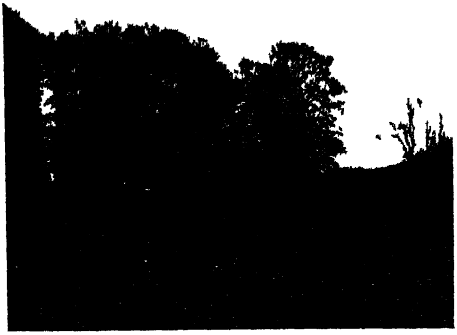

Fig. 23.—*Park Scenery at Ashridge.*

4. *What the State may do.*

Coming now to the fourth heading, what the State should do is a matter of great national concern. Let us first consider what has been and is being done by a Continental State.

Fig. 24.—*Park Scenery at Ashridge*

Fig. 25 —*Felling in a French Forest of Silver Fir.*

The State forests of Germany extend to 9,848,000 acres. The nett annual revenue derived from these forests during the five years 1877-81 was £4,280,400—an average profit of 8s. 6d. an acre. During the two succeeding quinquennial periods a steady increase in the profit per acre took place, until, during the five years 1892-96, the latest that I am able to quote, the net annual forest revenue had risen to £5,416,600—an average profit of 11s. an acre. Pray mark that figure, for I shall have occasion to return to it presently. What have we to show in Britain against this handsome revenue of 5½ millions sterling from 10 million acres of what, if not under forest, would be waste land? The balance-sheet of the Office of Woods and Forests for 1903-4 shows under the heading of "Royal Forests and Woodlands" a revenue of £32,481 against an expenditure of £58,402—a net loss of £25,911. No blame can be attached to the Department, which administers these woodlands as they are instructed to do—chiefly as pleasure ground and landscape garden. They work under rigid restrictions; it is those responsible for the restrictions who must be held to account for neglecting all provision for the future, and for allowing the national resources to remain undeveloped. The

Committee on Forestry in its report stated—"That it requires only the exercise of timely forethought and a moderate expenditure to anticipate the time when scarcity of foreign timber shall have greatly enhanced the price, and to replace with British-grown timber much of those enormous imports upon which we depend at present."

But this was a Departmental Committee, with a representative of the Treasury upon it, whose cold influence may be recognised in the sentence which follows—"We do not feel justified in urging the Government to embark forthwith upon any general scheme of State Forests under present circumstances." That is a strange deliverance by those who have so fully set forth the urgency of "present circumstances" in the rest of their report. Are we to wait till the crisis is upon us?

Fig 26.—*Felling in a French Forest of Silver Fir.*

I ventured in 1905 to lay before the Board of Agriculture and the Treasury a modest scheme for the profitable investment annually of £10,000 in State forestry. I am informed that the scheme has been favourably considered, but nothing has been done as yet.

Fig. 27.—*Oaks in Cadzow Park.*

The outline of the scheme is as follows: Owing to the great fall in value of sheep farms in the north, amounting to 50 per cent of the annual rent on many estates, there are hundreds of thousands of acres, suitable for forest growth, now rented at from 6d. to 2s. an acre. From some of this land a revenue is derived from its sporting capabilities, but much of it carries few or no grouse. Such land is constantly being offered for sale, and taking the price at twenty-five years' purchase, might be had for from £700 to £2500 for 1000 acres.

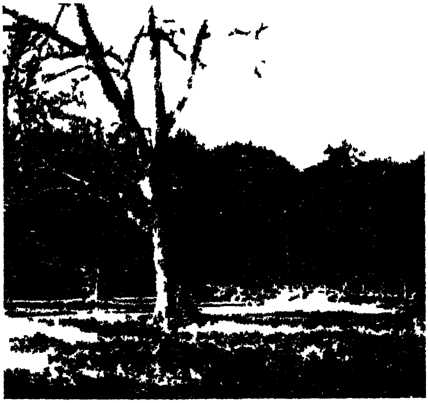

Fig. 28.—*Natural Regeneration in the New Forest. Self-sown young trees are seen within the fence, the unprotected ground outside bearing no seedlings.*

Now suppose that our Government made up its mind to invest £10,000 a-year in the purchase and planting of suitable hill pasture now rented at 2s. an acre, which implies land of good quality. The purchase of 1000 acres would cost £2500; planting and replanting, say £6 an acre, £6000; preliminary outlay on existing buildings and on drainage, £1000 = £9500; leaving £500 for expenses of purchase, &c. After that, the annual expenses may be reckoned as follows:—

	£	s.	d.
Head forester .	120	0	0
Foreman .	52	10	0
Eight woodmen at 18s. per week	374	8	0
Tool bill, &c. .	103	2	0
	£650	0	0

This is assuming the employment of one man upon every hundred acres, which would be necessary until the forest is fairly started, after which, and until the final felling, fewer might be required.

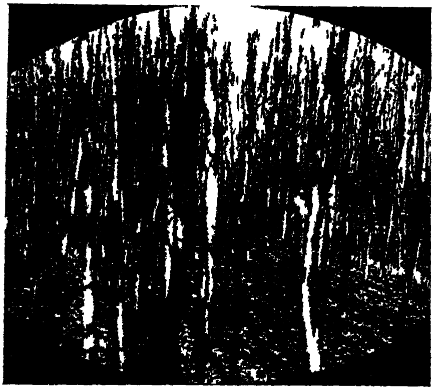

Fig. 29.—*Self-sown Trees on protected ground at Ashridge.*

Of course, the great question is, Would this investment pay? Can the State look for interest on the capital invested, accumulating at compound interest during the non-productive period of growth, and find that capital in hand at the end of the first crop period, say in a hundred years? We have the revenue results of German forests to encourage the belief that the investment would be a safe one. No reason can be shown why British forests should not do the same under similar good management.

It is most difficult to obtain any trustworthy returns of British forestry, national or private, for the simple reason that British forestry scarcely exists. I can produce only one such example, and it shows that sound management will ensure profitable returns from British woodlands, even in the present haphazard condition of the home timber trade. This example is the balance-sheet of the Novar woods in Ross-shire, as furnished from the estate office, showing the profit and loss account upon 3670 acres of woodland for the five years 1895-99. After debiting the account with all working expenses, loss of grazing rent, fire insurance, &c., there remains an average annual nett revenue of £2024, or 11s. 1d. per acre—almost exactly the same as that earned from the German State forests mentioned above.

Fig. 30.—*Scots Pine at Colesborne.*

Fig. 31.—*Spruce and Larch, 110-120 feet high, at Colesborne.*

The estate of Novar is distinguished from other private properties in this country by the fact that successive proprietors continued planting *on a regular system* from the year 1800 to 1850. Had this been continued, we should have had an example, unique in the United Kingdom, of an extensive woodland arranged for progressive annual maturity. Unluckily, the system was suspended between the years 1850 and 1881, when no planting was done; but it was resumed in the latter year by the present proprietor, Mr Munro-Ferguson, M.P. In spite of this break, which has interfered with the regular rotation, the returns quoted show the annual nett revenue to be satisfactory, and the working plan provides for that revenue being maintained, except so far as the thirty-one years of neglect must affect the returns during a corresponding period in the future.

Fig 32.—*Spruce and Larch at Colesborne.*

Taking this, then, as the basis of expectation of the economic results of State forestry, we may expect that land, worth at present from 6d. to 2s. an acre, may be made to yield a nett return of 11s. an acre. If the State were to decide on the investment of £10,000 a-year in the purchase and planting of land, at the end of fifty years it would have made a progressive investment of half a million sterling—the cost of four days' campaign against the Boers! The property, which it had acquired on the rent basis of 2s an acre, would be yielding 11s. an acre—a rise in value of 550 per cent. And this assuming, against all appearances, that the price of timber will continue stationary for half a century.

Fig 33.—*Spruce and Larch in French Forest.*

But that is not all the advantage to be gained. The minds of politicians and sociologists are grievously exercised just now, and justly so,

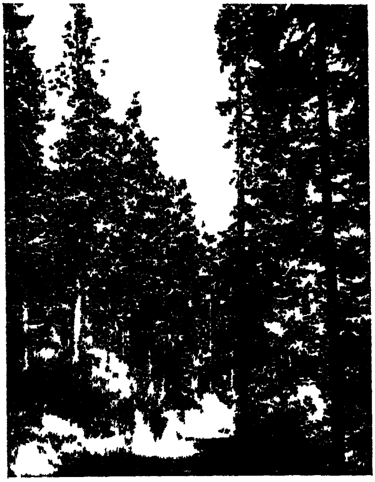

Fig. 34.—Silver Fir in French Forest

Fig. 35.—Silver Fir and Larch in French Forest.

about the physical deterioration of our population, owing to the concentration of the working classes in our large towns. No greater boon can be devised than healthy and remunerative work in the open air of the country. Suppose these 50,000 acres to have been planted by the State. Instead of a rural population of one shepherd to 1000 acres of pasture—fifty shepherds on the whole extent—you will have established one woodman to every 100 acres, or 500 woodmen on the whole ground. But that is not all. By the German census of 1875 it appears that besides £4,150,000 spent in wages to those employed in managing the forests, and in planting, felling, handling, and putting the produce on the market, direct employment was afforded to 583,000 persons (9 per cent of the total industrial classes of the empire) in manufacturing the timber so produced and sold. "These 583,000 breadwinners," observes Dr Nisbet, "represented about 3,000,000 souls, or nearly one-sixteenth of the total population."[1] Since that time there has been an immense expansion of this industry, owing to the establishment of pulping mills and cellulose factories, of which, as I have already said, not one exists in the United Kingdom.

In no part of King Edward's dominion would the creation of forest industries be of so much direct benefit as in Ireland, where there is an almost total

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[1] The Forester, vol. i. p. 84.

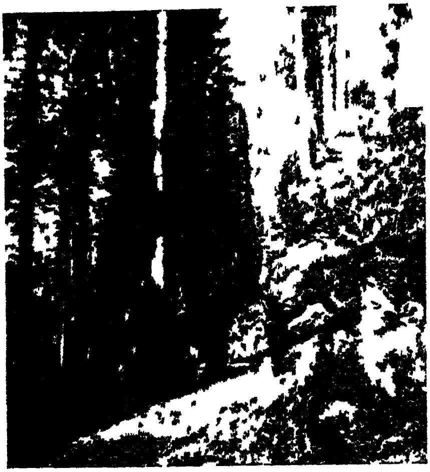

Fig 36.—Spruce and Larch at Dunkeld.

absence of that mineral wealth which abounds in Great Britain. And, by a happy dispensation, in no part of the United Kingdom does forest growth flourish more vigorously when it gets a chance. Five hundred years ago, when Richard II. wanted fine oak for the new roof, still existing, of Westminster Hall, it was from the forests of Kilkenny that he drew his supply. Moreover, one great obstacle with which forest reformers have to contend in England and Scotland hardly exists in Ireland—namely, game-preservation.

5. *What Private Owners may do.*

It is only one very ill-informed as to the average financial condition of landowners who would recommend a large investment of capital in planting in the hope of founding a new source of revenue. Not one landowner in a hundred could afford the necessary lock-up of capital during the non-productive years of a young forest. Moreover, the price of young forest trees in the United Kingdom is at present practically prohibitive. Take larch, for instance. One pound of larch seed costs about 3s., and contains about 70,000 grains, which ought to produce 50,000 seedlings; but larch two years transplanted is quoted by our leading nurserymen at an average of 50s. per

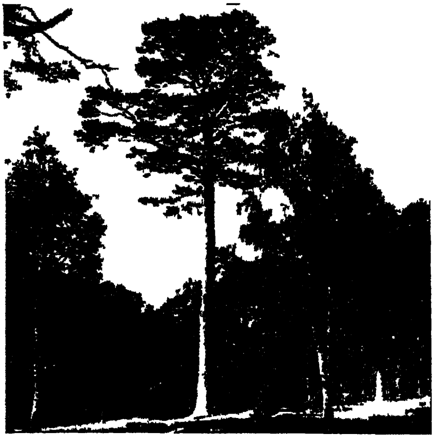

Fig 37.—The "Earls Tree at Castle Grant

1000. It would take 4840 of these to plant an acre 3 feet apart—nearly £12 an acre, besides the cost of planting: an outlay equal to four or five times the purchase price of hill pasture land valued at 2s. an acre. If forestry is ever to be a remunerative industry, this obstacle must be got over. That it can be overcome I do not doubt. Continental nurserymen manage to supply young trees at less than one-half the cost charged in this country; and the Governments of France, Germany, Belgium, and Denmark provide seed at nominal prices for landowners who undertake to manage their woods on approved system. The obvious expedient is co-operative forestry by a combination of landowners, who should agree to place their woodlands under control of one capable well-paid man, raise their own young stock from seed, and form a proper business connection for the disposal of their produce. If a limited liability company were formed among them, the death duties would be escaped.

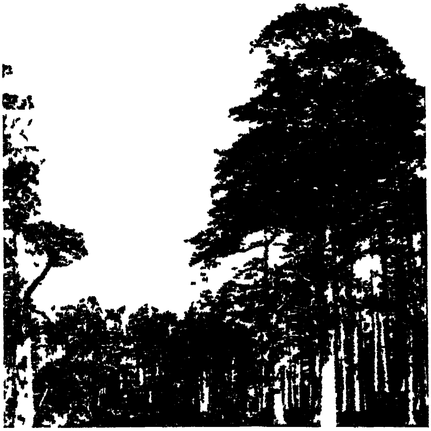

Fig 38.—*Scots Pines, Ballochbuie.*

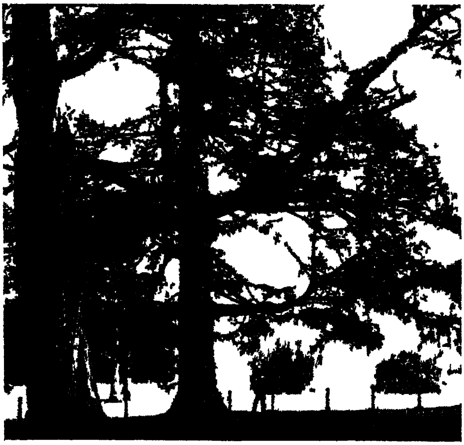

Fig. 39.—*The oldest Larches in Scotland, Dunkeld.*

But the difficulties in the way of this proceeding are as obvious as its expediency. The general ignorance of proper forest management which prevails among landowners and land-agents is a bar to common understanding. One owner would wish to have a stock of rabbits, which is absolutely incompatible with profitable forestry; another would have notions about landscape effect, and so on. It is to be feared that we are a long way from co-operation in this direction.

The fact remains that of the 3,000,000 acres of British woodland, nine-tenths are in private hands, and, so far from returning any profit, are the source of annual expense which defies calculation.

Can nothing be done to balance the account? It is an important question for landowners to answer, because, what with the failure of agriculture, the constant increase of rates, and the paralysing effect of death duties, the time is at hand when woodland must either cease to be treated as an ornamental luxury or disappear.

Fig. 40 —*In the Tyrol.*

If these 3,000,000 acres were rendered as productive as German forest they should yield a gross annual revenue of £2,000,000, or a nett annual profit of £1,000,000 = 6s. 8d. an acre. The nett profit on German *State* forests I have shown already to be equal to 11s. an acre per annum; the nett profit on State and private forests taken together is equal to 6s. 8d. an acre per annum.

Now the commonest and strongest objection to adopting a scientific and economic system of forestry is that it would destroy some of the fairest landscapes in the United Kingdom, especially that park scenery around country houses which is a peculiar feature of our land. It is a mistake to attribute any such purpose to forestry reformers. We hold that fine park scenery can never be produced by dotting trees about in the open, nor by following the prescription given in Brown's 'Forester' (so long the standard guide of British squires)—that "for park and lawn trees a distance from stem to stem about equal to the height of the trees should be maintained *at all stages of growth.*" Management of this kind produces sprawling trees as broad as they are high, with a sharp browsing line, giving them the contours of a toadstool, and exposing them to damage or destruction by gales. The ideal park tree is one which, having undergone discipline of close canopy until attaining nearly its full height, is then relieved and allowed to furnish out into a grand column of foliage.

All this means that fine park scenery is not the product of a single lifetime, reminding one of the old story of an American visitor to Oxford. Struck by the beauty of the turf in the college quads, he asked the gardener how it was produced. "Well, sir," was the answer, "we rolls un and we mows un for a thousand years, and it just comes, like."

. In support of my contention that fine park timber can only be had as the outcome of forest treatment, figs. 20 to 24 show views taken in Lord Brownlow's noble park at Ashridge.

The formation of park scenery out of high wood is not a disfiguring process. No industry presents such beautiful pictures as forestry, in which all the operations are picturesque. In figs. 25 and 26 is shown the work of clearing in progress in a French forest of silver fir.

Yet we have not only to form new park scenery but to preserve the old. If no measures are adopted to perpetuate it, it will pass in time into the lamentable condition of the old oak forest at Cadzow (fig. 27). This must be done either by underplanting or by protecting the ground from grazing and ground game for the encouragement of seedlings Natural regeneration of this kind is shown among the young oaks springing inside the fence of Denny enclosure in the New Forest (fig. 28). A better example of the contrast between the growth of seedlings on protected and unprotected ground cannot be given than by returning to Ashridge. Figs. 20 to 24 show ground in the park browsed by deer and nibbled by rabbits. In fig. 29 is shown a piece of ground which is protected from both, and has thrown up a dense growth of seedling beech, ash, oak, and sycamore.

A few examples may be added to show that these resources are not inferior to those enjoyed by Continental foresters. Figs. 30, 31, and 32 are views of Scots pine and spruce in Mr Elwes's woods at Colesborne, Gloucestershire. They may be compared with figs. 33, 34, and 35, which show spruce, larch, and silver fir of similar age in a French forest. Fig. 36 shows spruce and larch in the Duke of Atholl's wood near Dunkeld. Figs. 37 and 38 are Scots pines at Castle Grant and in Ballochbuie Forest; fig. 39 shows the parent larches at Dunkeld; and, returning to the Continent, fig. 40 is a vignette from the Tyrol.

Within the limits of a single paper it is impossible to deal with all the objections that will be raised to the establishment of systematic forestry in the United Kingdom. I have endeavoured to anticipate a few of them, in the hope that what has been written may contribute in some small measure to that awakening of intelligence whereby our people are beginning to realise that of all the spendthrifts of God's good gifts, there is none worse than the British Government and British landowner in respect of forest resources.

LAND AS AN INVESTMENT.

By R E. Turnbull.

The area of land in Great Britain can never be materially increased. Since 1891 the area of enclosed land under field crops and grass has diminished every year as follows:—

TABLE I.

Year.	No. of acres.	Year.	No. of acres.
1891-92 . . .	232,964	1898-99 . . .	19,924
1892-93 . . .	41,841	1899-1900 . .	19,721
1893-94 . . .	13,854	1900-1 . . .	19,941
1894-95 . . .	52,342	1901-2 . . .	29,486
1895-96 . . .	15,154	1902-3 . . .	44,380
1896-97 . . .	42,283	1903-4 . .	25,969
1897-98 . . .	43,045	1904-5 . . .	30,778
		1905-6 . . .	20,077
	441,483		210,276

The total area under crops and grass in 1891 was 32,918,514 acres, and in 1905, 32,286,832 acres, or 631,682 acres less than in 1891 = 1·92 per cent:—

TABLE II.

	1891 Crops and grass. No. of acres.	No of acres less in 1905	Per cent	1905 Crops and grass. No. of acres.
England . .	25,113,343	502,157	= 2·00	24,611,186
Scotland . .	4,917,380	36,395	= 0·74	4,880,985
Wales . . .	2,887,791	93,130	= 3·22	2,794,661
Great Britain .	32,918,514	631,682	= 1·92	32,286,832

The average annual reduction from 1901 to 1905 was 45,120 acres, and in the last thirteen years 30,670 acres.

TABLE III

	Decrease in arable land in 1905 as compared with 1891 No. of acres.		Increase in permanent grass in 1905 as compared with 1891 No. of acres.
England	1,177,632=9·8%		675,475=5·16%
Scotland	150,820=4·2%		114,425=8·56%
			789,900
Wales	69,874=8·0%	Wales decrease	23,256=1·15%
	1,398,326=8·48%	Net increase in permanent grass	766,644=4·66%

It will be seen from these figures that the proportion of land withdrawn from cultivation in England and Wales was much larger than in Scotland, and also that the decrease in arable land was much larger both in extent and in proportion in England than in Scotland. On the other hand, since 1891 the increase in permanent grass land has been larger in proportion in Scotland than in England:—

TABLE IV.

Mountain and Heath Land used for Grazing. No. of Acres.

	1891	1905	1905—Increase	1905—Decrease
England	1,861,829	2,365,476	503,647	...
Scotland	9,272,169	9,104,388	...	167,781
Wales	953,234	1,293,235	340,001	...
Great Britain	12,087,232	12,763,099	843,648	Net increase. 675,867

TABLE V.

Woods and Plantations No. of Acres.

	1891.	1905.	1905—Increase.	1905—Decrease
England	1,613,849	1,715,473	101,624	...
Scotland	905,759	868,409	...	37,350
Wales	174,967	184,361	9,394	..
Great Britain	2,694,575	2,768,243	111,018	Net increase 73,668

TABLE VI.

PERMANENT GRASS. ARABLE LAND AND MOUNTAIN AND HEATH LAND USED FOR GRAZING. NO. OF ACRES.

	1891.	1905.	1905—Increase.	1905—Decrease.
England . . .	26,975,172	26,976,662	1,490	...
Scotland . . .	14,189,549	13,985,373	...	204,176
Wales . . .	3,841,025	4,087,896	246,871	...
Great Britain .	45,005,746	45,049,931	248,361	Net increase. 44,185

TABLE VII.

TOTAL AREA USED FOR FARMING PURPOSES AND WOODS AND PLANTATIONS. NO. OF ACRES.

	1891.	1905.	1905—Increase.	1905—Decrease.
England . . .	28,589,021	28,692,135	103,114	...
Scotland . . .	15,095,308	14,853,782	...	241,526
Wales . . .	4,015,992	4,272,257	256,265	...
Great Britain .	47,700,321	47,818,174	359,379	Net increase. 117,853

In connection with the subject of "land as an investment," the annual increase in population is an important consideration. Between the census of 1891 and 1901 there was an increase in the population of Great Britain of 3,969,860, =12 per cent. In England and Wales the increase was 3,523,550, =12·15 per cent; in Scotland the increase was 446,310, =11·08 per cent. It is estimated by the Board of Agriculture that the population of Great Britain was larger in 1904 than in 1903 by 434,000, the increase in England and Wales being 385,000, and in Scotland 49,000:—

TABLE VIII.

POPULATION OF GREAT BRITAIN IN 1891 AND IN 1905.

	1891.	1905.	1905—Increase.	Average annual increase.
England . . .	27,481,000	32,370,000	4,889,000	...
Scotland . . .	4,025,500	4,677,000	651,500	...
Wales . . .	1,521,500	1,778,000	256,500	...
Great Britain .	33,028,000	38,825,000	5,797,000	414,000

In March 1899 an exceedingly interesting paper on "Leeds from a Surveyor's Point of View" was read before the Leeds and Yorkshire Architectural Society by Mr John Hepper, F.S.I., who is well known in his profession as a man of great experience and sound judgment. At the Yorkshire meeting of the Surveyors' Institution, held in Leeds in April 1900, Mr Hepper also read a paper on the same subject. The following facts relating to Leeds, which is a city and county borough, are gathered from Mr Hepper's valuable papers.

The area of Leeds is 21,572 acres. It is the chief manufacturing town in the north of England, and has a great variety of industries, chief amongst which are woollen goods and machinery, bricks and sanitary appliances.

In the eleventh century Leeds was a village. Early in the seventeenth century the population numbered only about 5000. The growth of Leeds in the nineteenth century was remarkable. During that period nearly 19,000 acres that in the eighteenth century were available for food production were to a large extent withdrawn from agriculture for the extension of this progressive city. In 1801 the population was 53,160; in 1821, 83,800; in 1841, 152,050; in 1861, 207,160; in 1881, 309,120; in 1900, 421,860; in 1901, last census, 428,950. From the first census in 1801 to the census in 1901 the increase during the century that intervened was 375,800, or about 707 per cent. Between 1891 and 1901 the increase was 61,448, or over 16·7 per cent, the average annual increase being 1⅔ per cent. On this basis the population by 1905 reached 450,880, or 20·9 per acre. Within the area of Leeds there is one large park—Roundhay—300 acres of which are reserved for public use, and there are eighteen other parks and recreation-grounds that vary in extent from under 10 acres to 78 acres. The total area of the parks and recreation-grounds is 645 acres. The eighteen smaller parks and recreation-grounds and surplus land connected therewith are valued by the corporation at £348,000, or about £1000 per acre—rather over 4s. per square yard. The cattle-market occupies about 16 acres, and the general market about 5 acres; burial-grounds, 34½ acres, valued at nearly £1000 per acre; allotments, about 15½ acres, valued at about £500 per acre.

To provide accommodation for the ever-growing population, and to replace houses pulled down on insanitary areas for public improvements, and for commercial expansion, not less than 1750 new houses have to be built annually. In the twelve months that ended on the 25th of March 1898 the number of houses built was 2399, and of other buildings 1289. In 1866 there were 184 miles of paved and macadamised highways. In 1898 there were 340 miles.

A very large area is occupied by manufacturing premises, railway-stations, sheds and lines, warehouses and shops. For residential, recreation, and business purposes it would appear that the total area required in the case of a manufacturing town equals about $\frac{1}{20}$ of an acre per head of its population, or $\frac{1}{4}$ of an acre per family of five persons. From 1891 to 1905 the population of Great Britain is estimated to have increased (in round figures) by 5,800,000. This equals 1,160,000 families. It is certain that the greater part of this increase took place in urban districts. In 1901 urban districts in England and Wales occupied 3,848,987 acres, an increase of 576,132 acres, or 17·6 per cent during the ten years 1891-1901. The area added to urban districts between 1891 and 1901 was equal in extent to 72 estates of 8000 acres each. The whole of the land withdrawn from rural districts was not immediately required for building or recreation purposes, but undoubtedly the proportion that ceased to contribute to the food-supply was very large, and had a high rental value for agricultural purposes.

By referring to Tables I. and II. it will be seen that the average annual reduction from the total area of land under crops and grass in Great Britain in 1891 was 45,120 acres. Excluding the twelve months from June 1891 to June 1892, the average reduction was 30,670 acres. The reduction in 1891-92 having been nearly 233,000 acres, it is manifest that a large proportion of this area was not required for the extension of towns. As seven-eighths of the increase in population in Great Britain since 1891 took place in England, it may be well to examine the figures for England separately from 1892 to 1905, in order to ascertain, if possible, what area of land was withdrawn from agriculture during that period for the extension of towns. Land added to urban districts is not in all cases agricultural in character.

TABLE IX.

England.

	Total area under crops and grass. No. of acres.		Population.
1892	24,924,204	1892	27,840,000
1905	24,611,186	1905	32,370,000
Decrease	313,018	Increase	4,530,000

Annual average decrease, 24,078. Annual average increase, 348,460.

The population of England from 1892 to 1905 increased by 906,000 families (five per family): the area required for their accommodation, including recreation-grounds and the addition to streets, shops, and other business premises at one-quarter of an acre per family, was 226,500 acres, the annual average being about 17,420 acres.

During this period (1892-1905) the increase in woods and plantations in England was, on the average, 7258 acres. The increase from 1892 to 1905 was, therefore, about 94,350 acres. The decrease in the total area under crops and grass being 313,018 acres, it is evident that if the extension of the area covered by woods and plantations took place entirely on land withdrawn from the cultivated area, the land taken up for the extension of towns could not have been more than 218,670 acres—equal to $\frac{24}{100}$ of an acre per family, instead of $\frac{25}{100}$ of an acre as calculated. But it is well known that unenclosed land has to some extent been planted with trees in recent years. Here we are met by a difficulty. The quantity of unenclosed land used for grazing was larger in England by about 603,650 acres in 1905 than in 1891. The total area of enclosed and unenclosed land occupied by farmers, and of land covered by woods and plantations, was nearly 300,000 acres more in 1905 than in 1892, although, apparently, 226,500 acres or thereabouts of grass and arable land had between June 1892 and June 1905 been withdrawn for the extension of towns.

In round figures, the total areas were—

1892	28,392,000
1905	28,692,000

In 1891 and in 1905 the total area of enclosed and unenclosed land occupied by farmers was almost exactly the same.

In Major Craigie's Report to the President of the Board of Agriculture for 1894 he said that the area stated of mountain and heath land used for grazing "is only approximate," and, further, that "the annual estimates of these mountain and heath grazings vary somewhat with the character of the seasons." It would add greatly to the value and interest of the agricultural returns if a statement were annually made of the purposes to which land withdrawn from agriculture is applied.

In the near future there can be no doubt that an effort will be made to sweep away the slums that continue to disgrace many of the cities and towns of Great Britain. What has already been done in Leeds and Birmingham is encouraging, and in deference to public opinion the evil of densely crowded, sunless, and insanitary streets and courts will have to be remedied by the removal of existing dwellings that are unfit for habitation, and by the provision of dwellings in which a real home can be enjoyed.

The population of England is increasing at the rate of 1000 a-day, or by 365,000 in twelve months; the population of Scotland is increasing by 137 per day, or by 50,000 in twelve months; Wales by nearly 55 per day, or by 20,000 in twelve months. Should the population continue to increase in Great Britain by 435,000, or by equal to 87,000 families, the quantity of land that will be annually withdrawn from agricultural purposes to provide the accommodation required for houses, shops, and other buildings, together with recreation-grounds, roadways, &c., will be about 21,750 acres on the basis of ¼ of an acre per family. A considerable additional area is also likely to be required, as already indicated, for improved dwellings.

It is manifest, too, that in many districts the country roads are not sufficiently wide for the increased traffic caused by the rapidly increasing use of motor-cars. In order to widen the roads, or to provide footpaths in the fields adjoining the roads, land will have to be withdrawn from the agricultural area for the purpose.

There would appear to be good grounds for believing that during the next ten years from 200,000 to 250,000 acres now used entirely for agricultural purposes will be required for the extension of towns and for improved roads. Some land will also be required for new branch railways and for widening existing lines. Landowners who possess property in the immediate neighbourhood of growing towns will certainly be able to dispose of a considerable area on advantageous terms to buyers of building land, and as the land so disposed of becomes occupied by houses, shops, factories, warehouses, &c., adjoining land must necessarily increase in value. From 1871 to 1905 the population of Great Britain increased in round figures by 12,750,000, or on the average by 375,000 annually. The additional area that was probably required to provide residential and business accommodation for 12,750,000 people, or equal to 2,550,000 families, works out to 637,500 acres at ¼ of an acre per family, or $\frac{1}{20}$ of an acre per head of the population. At £400 per acre the value of the land taken up for this purpose would amount to £255,000,000. It is unlikely that the whole of this vast sum passed into the hands of the 1871 owners—a considerable proportion was probably purchased by far-seeing buyers of building land; but making due allowance for this, there can be no doubt that landowners disposed of a very large area of land between 1871 and 1905 at prices that show a very material advance on the value of 1871. The value, too, of an equal area of land adjoining the land disposed of must also have been considerably increased. In other words, the extension of towns since 1871 has largely increased the value of fully 1,275,000 acres of land.

During the period named a considerable area of land that in 1871 was devoted entirely to agricultural purposes has been absorbed in connection with the extension of the railways. More than the agricultural value has been paid for this property, and the new railways have certainly in many cases added considerably to the value of land suitable for market-garden crops, where such land is situated near railway stations. The area of land taken up since 1871 for the manufacture of bricks and for the development of the mineral resources of the country has also been considerable, and has usually realised prices well above the agricultural value in 1871.

In connection with the great fall in the value of agricultural land that has taken place since 1871, it is well not to lose sight of the fact that many estates have benefited substantially by the extension of railways and towns, and by the industries associated with this work. £250,000,000 may perhaps be regarded as a reasonable estimate of the value to landowners of the extensions and enterprises alluded to.

The Royal Statistical Society.

On the 21st of February 1905 Mr R. H. Inglis Palgrave, F.R.S., whose father, Sir Francis Palgrave, was one of the founders, read a very interesting and able paper before the Society, entitled "Estimates of Agricultural Losses in the United Kingdom during the last Thirty Years." The keen interest taken in the subject was proved not only by the exceptionally large attendance, but also by the long and animated debate that followed the reading of the paper, in which Major P. G. Craigie, C.B.; The Right Hon. G. J. Shaw-Lefevre (Chairman of the Royal Commission on Agriculture, 1894); Mr F. A. Canning, M.P.; Mr J. W. Spear, M.P.; Mr S. Rosenbaum; Mr R. H. Rew (Board of Agriculture), and other members of the Society, took part.

The principal points included in Mr Palgrave's estimate were—

(1) The decrease in the value of agricultural produce since the years 1872-77—which he took as the base of his computation.
(2) The diminution in the value of farming capital.
(3) The drop in the value of land in the United Kingdom since 1872-77.

GROSS FARM REVENUE.

(Exclusive of the produce of unenclosed land.)

Annual average for the six years 1872-77 . .	£255,000,000
Annual average for the six years 1898-1903 .	174,516,000

Reduction in 1898-1903 as compared with 1872-77,
£80,484,000 = 31·56 per cent.

Mr Palgrave estimated that the gross farm revenue during the thirty-two years amounted to £6,512,500,000. Had the average of 1872-77 been kept up, the gross revenue during the thirty-two years would have been £8,160,000,000, or £1,647,500,000 more than it was according to the estimate. Mr Palgrave estimated the gross revenue for 1904 to have been about £195,000,000—making the total for the thirty-three years £6,707,500,000, or £1,707,500,000 less than it would have been on the 1872-77 basis.

Gross revenue in thirty-three years, on the 1872-77 base	£8,415,000,000
Gross revenue, 1872-1904, as estimated . .	6,707,500,000
	£1,707,500,000
Gross revenue in the twenty-seven years 1878-1904, on the 1872-77 base . . .	£6,885,000,000
Gross revenue by Mr Inglis Palgrave's estimate, 1878-1904 (annual average, £191,759,000) .	5,177,500,000
	£1,707,500,000

Average reduction in the twenty-seven years 1878-1904, as compared with the 1872-77 average, £63,240,740=24·8 per cent.

Alluding to this great reduction in gross revenue, Mr Inglis Palgrave remarked: "In round figures, a loss of £1,700,000,000 in the twenty-seven years (1878-1904). I do not say this is all a loss to the country by any means, but it appears to me to indicate a loss to the producer which is very considerable to him." From further remarks Mr Palgrave made, it is evident that he had arrived at the conclusion that in the aggregate farmers' profits were diminished during the twenty-seven years by about £500,000,000, or by, on the average, £18,518,500 a-year.

In vol. x., fifth series, 1898, of 'The Transactions of the Highland and Agricultural Society of Scotland,' pp. 378, 379, an estimate was given of the "annual average cash expenses and the annual average value of all manual labour, whether paid in cash or in kind," for two periods—viz., from June 1872 to June 1877 and from June 1892 to June 1897. It was explained that the cost of keep for working horses, and the cost of seed corn, seed potatoes, and of all seeds produced on and used on agricultural holdings in the United Kingdom, was not included in the estimate, as the value of the same was not included in the estimate of gross revenue.

WORKING EXPENSES, SUBJECT TO THE EXPLANATION GIVEN ABOVE.

Period A—Five years' average, June 1872-77 .	£210,400,000
Period B—Five years' average, June 1892-97 .	170,000,000
Reduction in Period B as compared with Period A	£40,400,000

On the basis of the expenses named above for period A, Mr Palgrave's figures show the following result:—

Average gross revenue, 1872-77		£255,000,000
Average expenses (as explained)		210,400,000
Average annual profit		£44,600,000
Average gross revenue, 1878-1904	£191,759,000	
Average expenses (as explained)	165,677,000	
Average annual profit	£26,082,000	
Average reduction in expenses 1878-1904, as compared with 1872-77		£44,723,000
Average reduction in profit 1878-1904, as compared with 1872-77		18,518,000
Average reduction in gross revenue		£63,241,000

If these figures may be regarded as substantially correct—a conclusion that a careful examination justifies—it would appear that during the twenty-seven years 1878-1904 the net income of the farmers of the United Kingdom was reduced by £500,000,000 (annual average reduction, £18,518,000), or by more than the average amount of capital invested in farming during the five years from June 1872 to June 1877, which was £450,000,000.

The estimated reduction in expenses equalled 21¼ per cent, and in net revenue 41⅖ per cent. The net revenue during the five years that ended in June 1877 averaged very nearly 10 per cent on the capital employed—an average that has never since been enjoyed over a wide area in any part of the kingdom.

Mr Palgrave said, with regard to the fall in the value of land: "The final Report of the Commission on Agriculture (1898) records 'a decline of nearly £1,000,000,000 in the capital value of land in the United Kingdom' as having occurred between 1875 and 1894. . . . The losses of agriculture in the United Kingdom between the years 1872-77 and 1904 have collectively been about £1,600,000,000, viz.:—

Diminution in owners' capital	£1,000,000,000
Diminution in farmers' capital	100,000,000
Diminution in farmers' profits	500,000,000
	£1,600,000,000

The estimated diminution in owners' capital of £1,000,000,000, even if it could have been proved to have taken place, included a loss of some importance that was not connected with the agricultural land occupied by farmers. Sir Robert Giffen's and

Lord Milner's valuations were based on the "gross income from 'lands' returned under Schedule A. of the income-tax returns, which refer to lands whether cultivated or uncultivated, including ornamental grounds, gardens attached to houses when exceeding one acre in extent, tithe rent charge commuted under the Tithe Commutation Acts, farmhouses, and farm buildings." Woods and plantations are included in "lands" under this Schedule, also deer forests and unenclosed land, whether grazed by stock or not.

Mr Shaw-Lefevre, in the course of the debate, characterised the £1,000,000,000 estimate of the Royal Commission as "grotesque and absurd, and founded upon a wrong basis. The majority of the Royal Commission made the calculation by taking the year 1875 and comparing it with 1893. They took, in the first place, the difference between the income-tax assessment of the value of the land, which they found was a difference of 20 per cent, and then they multiplied the first valuation for the year 1875 by 30 years' purchase, and for the year 1893 by 18 years' purchase. . . . Was it fair to take the value of land in 1875 at 30 years' purchase and the value of land in 1893 at 18 years' purchase?" Mr Shaw-Lefevre expressed the opinion that at the present time (1905) the price of land is certainly more than 25 years' rental.

Mr Palgrave mentioned that for the years 1877-81 the annual value of the land in the United Kingdom is given in the "Statistical Abstract as £68,000,000, and the value for 1902-3 as £52,000,000."

On the basis of 30 years' purchase for 1877-81 (which is probably too high for a considerable portion of the United Kingdom outside England), and 22½ years' purchase for 1902-3, the reduction in value amounts to £870,000,000—equal to 42·65 per cent. Farmers pay to landowners annually an amount that on the average probably equals 25 per cent, or one-fourth of the gross farm revenue (which includes the value of everything sold outside agricultural holdings and farm produce consumed in farmhouses).

A. Average gross farm revenue, June 1872-77	£255,000,000÷4=	£63,750,000
B. Average gross farm revenue, June 1900-5	185,000,000÷4=	46,250,000
Reduction in period B. .	£70,000,000	£17,500,000=27·45%

£63,750,000 × 28 =£1,785,000,000
46,250,000 × 22½= 1,040,625,000

On this basis the reduction in the value of land occupied by farmers was	£744,375,000=41·7%

Capital employed by Farmers.

Annual average, June 1872-77 . .	£450,000,000
Annual average, June 1900-5 . .	350,000,000
Decrease .	£100,000,000=22·22%

In comparing the value of the total quantity of land now occupied by farmers with the quantity occupied in the 'Seventies, it should be remembered that a large area of valuable land then occupied by farmers has since been sold for the extension of towns and railways and for country residences. The quantity disposed of in Great Britain since 1871 has been extensive: whatever the quantity may have been, the amount received for it that was not used by landowners for estate improvements should be taken into account when the reduction of landowners' capital is under consideration. Even if landowners did not obtain more than £250 an acre for the land sold for other than agricultural purposes, they must have received a very substantial sum during the period alluded to (1871-1905).

It may be interesting to compare the joint capital of landowners and farmers in connection with agricultural land on the basis of the last-named estimates.

LAND OCCUPIED BY FARMERS.

Joint Capital of Landowners and Farmers.

Average, June 1872-77 . . .	£2,235,000,000
Average, June 1900-5 . . .	1,390,000,000
Reduction . .	£845,000,000

If these figures are substantially correct, it would appear that during the five years from June 1872 to June 1877, 20 per cent or one-fifth of the joint capital was contributed by farmers, while during the five years from June 1900 to June 1905 farmers contributed 25 per cent or one-fourth of the joint capital.

During the twenty-five years from 1853 to 1878 there was a very great increase in the value of land and in the capital employed by farmers.

GROSS INCOME FROM "LANDS" RETURNED UNDER SCHEDULE A.

England and Wales.

1852-53 . .	£41,000,000	1879-80 . .	£51,800,000
1862-63 . .	44,000,000	1882-83 . .	48,400,000
1872-73 . .	49,000,000	1892-93 . .	40,800,000
1877-78 . .	51,700,000	1902-03 . .	36,600,000

It will be seen that the whole of the great increase that took place during the twenty-five years that followed 1852 had disappeared by 1893, and that in 1902-3 the assessment was £4,400,000 less than in 1852-53. The highest point reached, according to the income-tax returns, was in the year 1879-80, the worst farming year in the memory of any one now engaged in the industry.

1879-80	. . .	£51,798,950
1902-3	. . .	36,624,408
	Reduction .	£15,174,542=29·3%

In Scotland the highest point was also reached in 1879-80.

1879-80	. . .	£7,769,303
1902-3	. . .	5,883,487
	Reduction .	£1,885,816=24·28%

The reduction in Scotland was, relatively, 5 per cent less than in England and Wales. In 1902-3 the amount was almost exactly the same as in 1857-58, the reduction being only £48,500.

According to the estimate of the late Sir James Caird, the capital invested by farmers in live stock in the United Kingdom in 1853 was £146,000,000, and in 1878 £260,000,000. The value in June 1905 was about £216,000,000, or £70,000,000 (=48 per cent) more than in 1853.

Although there has been a very severe fall in the value of land from the extreme value reached between 1875 and 1879, the present value compares far less unfavourably if we go back to 1850-52. With regard to live stock, both in quality and in value the present position is far better than it was in the middle of the nineteenth century. Barley and oats are worth nearly as much per quarter now as in 1851; wheat about 10s. per quarter less. It is right to add that though the income-tax figures do not reveal a very great reduction in the gross income from "lands" in Great Britain, going back to 1852, a large amount of capital that was invested by landowners in improving their estates has disappeared. On the other hand, a large sum has been received by landowners for property sold for the extension of towns and railways, and for country residences.

The following table shows that Scottish farmers have not discarded the plough to the same extent as English and Welsh farmers. Converting arable land into grass has, in some districts, been carried too far in England. By extending the rotation from a four-course to a seven-course the result, where the rainfall is not above the average of England, would probably have been more satisfactory than by abandoning the plough, except on farms where the land is exceptionally strong in character.

NO. OF ACRES—AVERAGE FOR THE FIVE YEARS 1871-75.

	Permanent grass	Arable.	Total.	Arable. Per cent.
England . . .	10,216,981	13,695,437	23,912,418	57·28
Scotland . . .	1,084,983	3,475,842	4,560,825	76·21
Wales . . .	1,581,558	1,070,925	2,652,483	40·38
Great Britain . .	12,883,522	18,242,204	31,125,726	58·6

NO. OF ACRES, 1905.

	Permanent grass.	Arable.	Total.	Arable. Per cent.
England . . .	13,760,592	10,850,594	24,611,186	44·08
Scotland . . .	1,450,726	3,430,259	4,880,985	70·27
Wales . . .	1,989,176	805,485	2,794,661	28·82
Great Britain . .	17,200,494	15,086,338	32,286,832	46·72

GREAT BRITAIN.

Total increase in crops and grass, 1,161,106 acres :—

	Increase.	Per cent.
England	698,768	2·92
Scotland	320,160	7·02
Wales	142,178	5·35
	1,161,106	3·73

Decrease in arable land :—

	No. of acres.	Per cent.
England	2,844,843	20·77
Scotland	45,483	1·31
Wales	265,440	24·79
	3,155,766	17·3

With regard to live stock, the total quantity since 1871-75 has increased to a larger extent relatively in England and Wales than in Scotland; but the average quality of the beef produced in Scotland continues to be of considerably higher quality than that produced in England and Wales. Estimating the average live-weight of stock of all ages to be 8 cwt., 6 cwt., ¾ of 1 cwt., and 1 cwt. respectively for horses and ponies, cattle and calves, sheep and lambs, and pigs, the following comparative result is arrived at:—

LIVE-WEIGHT IN CWTS.

	Average 1871-75	1905.	Increase.	Per cent.
England and Wales . .	55,531,145	61,456,170	5,925,025	10⅔
Scotland	13,730,230	14,413,230	683,000	5
	69,261,375	75,869,400	6,608,025	9·54

LIVE-WEIGHT IN CWTS., 1871-75.

	England and Wales.	Scotland.	Total.
Horses of all ages	8,876,032	1,429,216	10,305,248
Cattle and calves . . .	28,114,716	6,764,022	34,878,738
Sheep and lambs	16,221,673	5,370,842	21,592,515
Pigs of all ages	2,318,724	166,150	2,484,874
	55,531,145	13,730,230	69,261,375

LIVE-WEIGHT IN CWTS., 1905.

	England and Wales	Scotland.	Total.
Horses of all ages	10,928,376	1,651,088	12,579,464
Cattle and calves	34,558,350	7,363,770	41,922,120
Sheep and lambs	13,674,738	5,268,158	18,942,896
Pigs of all ages	2,294,706	130,214	2,424,920
	61,456,170	14,413,230	75,869,400

There were 623,582 more sheep and lambs in Wales in 1905 than the average number in 1871-75. In Scotland in 1905 the number was only 136,910, or 1·9 per cent less than the average for 1871-75. In England there was a serious reduction—4,019,490 = 27·35 per cent. But notwithstanding the great decrease in England in the number of sheep and lambs, the number annually marketed in the United Kingdom during the five years from June 1900 to June 1905 out of the number enumerated, was in round figures 500,000 more than during the five years from June 1872 to June 1877, as the following calculation proves:—

Average number of sheep and lambs in June 1872-76 . .	33,663,850
Average number of sheep, exclusive of lambs, June 1873-77	21,445,450
Number sold or lost out of the number enumerated . .	12,218,400 =36·29 %
Average number of sheep and lambs in June 1900-4 . .	30,141,070
Average number of sheep, exclusive of lambs, 1901-5 . .	17,852,420
Number sold or lost out of the number enumerated . .	12,288,650 =40·77 %

Assuming that on the average 4 per cent of the sheep and lambs enumerated were lost, the average number annually marketed (exclusive of lambs born after one census and sold before the next) was as follows:—

	Fat sheep and lambs.	Per cent of the number enumerated.
Average for June 1872-77 . .	10,583,800	31·72
Average for June 1900-5 . .	11,083,000	36·77
Increase	499,200	5·05

It is earlier maturity that has made it possible to produce more mutton and lamb now annually from the reduced flocks than from the larger flocks that formerly existed.

For the same reason the proportion of cattle now annually marketed is larger than it was thirty years ago.

The improvement in production to which I have alluded is an advantage of great importance to farmers, and also to landowners and to the country. There is still great room for improvement in the quality of the cattle of this country: when it is accomplished, times will be brighter both for landowners and farmers. The best herds in the United Kingdom are universally admitted to be unequalled in quality, and there is no reason why the supply of home-fed beef of the best quality should not be on a much larger scale than it is at present.

Mortgaged Estates.

The unfortunate position in which many landowners both in England and Scotland are placed in at present is largely due to the fact that their estates were mortgaged when land was high in price. The rate of interest paid involved a loss of income from the first equal to at least 1 per cent on the amount of the loan. When land that was worth £25 an acre in 1850 increased in value to £30 an acre—as it did in the 'Seventies—a large number of owners of small estates took advantage of the high prices that then prevailed and sold their farms to landowners who desired to enlarge their estates. **Wherever estates were considerably enlarged by the aid of borrowed capital, the result has proved to be disastrous.** The capital advanced on mortgage in the 'Seventies usually carried 4 per cent interest.

The prices paid for farms in good order equalled thirty times the gross rent. On well-managed estates in corn-growing districts the average annual expenses equalled 25 per cent, or one-fourth of the gross rent. The net return on capital invested in land when the price equalled thirty years' purchase seldom exceeded 2½ per cent. Even in the exceptional cases where loans were secured at 3½ per cent interest, the land held by the aid of the loans involved a loss equal to 1 per cent on the amount of capital borrowed. Where 4 per cent was paid, as was usually the case, the annual loss equalled 1½ per cent. Had land continued to rise in value, the increased value might have compensated for the loss of interest; but as a matter of fact the small owners, in most cases, sold their properties when prices were at the highest or nearly so. Landed estates gradually fell in value, and are now on the average worth about 40 to 42 per cent less than they were thirty years ago. The average fall in farm rents appears to have been about 27½ per cent.

The following figures indicate clearly that where the mortgage loan amounted in 1875 to half the value of the estate, and carried, and still carries, 3½ per cent, there can be no net income at the present time except by withholding necessary expenditure; and it is impossible for landowners who are in this trying position, brought about in many cases by the too sanguine views of their predecessors, to maintain their estates in good order unless they have other sources of income.

The landowners concerned are not the only sufferers. Their tenants, however industrious they may be, cannot possibly obtain from the land the increase it is capable of when the necessary capital for its improvement is not forthcoming. It is impossible to farm profitably where the land is waterlogged, and where suitable accommodation for stock is not provided. The serious decline in the productive power of the many heavily mortgaged estates in this country is also a national loss which calls for early attention. It was the opinion of the late Mr Gilbert Murray, who was one of the ablest and most experienced land-agents in England, that the outlay necessary to maintain an estate in good order ought, by law, to be regarded as a first charge on the gross rent, and that the net rent alone should be liable for mortgage interest:—

ILLUSTRATION.

Value of a landed estate in 1875		£600,000
Value of the same in 1904, reduced by 40 per cent		360,000
Mortgage £300,000, at 3½ per cent interest—		
Annual mortgage interest		10,500
Estate expenses, including agency, but exclusive of mortgage interest, 25 per cent or one-fourth of the gross rent.		
1875—Gross rent		£20,000
Estate expenses	£5,000	
Mortgage interest	10,500	
		15,500
Net income		£4,500
1904—Gross rent		£14,400
Reduced estate expenses	£3,600	
Mortgage interest	10,500	
		14,100
Net income		£300

It may be useful to compare this deplorable result with that of an unmortgaged estate of the same character and rental value, but only half the size, assuming for this purpose that the rent and estate expenses were in each case gradually reduced.

	Thirty years' average rent.	Thirty years' average expenses and interest on mortgage.	Average net income.
Free estate	£8,600	£2,150	£6,450
Mortgaged estate	17,200	14,800	2,400
Difference in receipts and expenses and in net income	8,600	12,650	4,050

Gain in net income by the free estate in thirty years		£121,500
40 per cent loss of value in the mortgaged estate	£240,000	
40 per cent loss of value in the free estate	120,000	
Difference in favour of the free estate		120,000
		£241,500

Average annual advantage in the thirty years, £8050.

FREE ESTATE.

1875—Gross rent	£10,000	
Estate expenses		£2,500
Net income		7,500
		£10,000
1904—Gross rent	£7,200	
Estate expenses		£1,800
Net income		5,400
		£7,200

The owner of the free estate is still in possession of a substantial income, although the reduction from the high level of 1875 to the comparatively low level of 1904 is a large one. There is this, however, to be said—viz., that the purchasing power of a sovereign at the present time, so far as the necessaries of life are concerned, is considerably greater than it was in 1875 and throughout the period of high prices.

It has been shown that in the case of a reduction of 40 per cent in the value of the mortgaged estate, the net income has practically disappeared, having been reduced to £300 a-year. The Royal Commission on Agriculture estimated the fall in value to have been much more than 40 per cent; but even 42 per cent would be sufficient to sweep away the net income entirely.

	£600,000 ;	rent in 1875 on the thirty years' basis		£20,000
42 per cent	252,000			
Reduced value	£348,000 ;	rent on twenty-five years' basis	£13,920	
Reduced estate expenses				£3,480
Mortgage interest				10,500
				£13,980

Total Dr. excess of Cr., £60.

The 40 per cent reduction left the mortgaged estate worth £360,000, or £60,000 over the £300,000 mortgage loan. If the estate were sold and the £60,000 were invested in a small estate at not exceeding twenty-five years' purchase, the net income would be increased from £300 a-year to £1800.

Cost of estate, £60,000 ; rent on twenty-five years' basis		£2400
Estate expenses	£600	
Net income	1800	
	£2400	

Shakespeare well said that

"Borrowing dulls the edge of husbandry."

How severely some landowners have suffered by the fall in the value of land purchased at high prices may be gathered from the following fact, which is within my personal knowledge. An estate in Cambridgeshire that cost the owner, by the time he had rebuilt or substantially improved the farmsteads and cottages, and drained all the waterlogged land, £71,000, was sold for £21,000. The owner's loss by this investment was £50,000, or over 70 per cent of the cost of the estate, including the improvements alluded to.

Landed estates can now be purchased at prices that are far more likely to improve in most cases than to fall, if the population continues to increase at anything approaching the present rate of over 1000 a-day. Land can be purchased at prices that vary from twenty to forty times the rent, according to the character of the estate and its position. In the immediate neighbourhood of growing towns, forty years' purchase may have to be paid because of its prospective building value. Twenty-five years' purchase probably represents the average at present for estates in Great Britain. Under good management the net return on the capital invested in a well-equipped estate is fully 3 per cent, apart from the value to the owner of the house and sporting rights—a return that compares favourably with consols, and is far more attractive.

The kind of estate that is most likely to give a higher net return in the near future than can at present be obtained *is one that is naturally fertile, and that only requires re-draining to make it productive.* Estates in this condition are usually sold below their real value, because the appearance of the land is uninviting, and therefore fails to call forth active competition.

Taking the case of a small estate of this kind that can be purchased for £40,000, the net return in its present condition being £1200, or 3 per cent on the cost. Assuming that £10,000 can be employed in improvements of a remunerative character, for which the tenants would readily pay 5 per cent interest, especially for draining, the good result of which is quickly apparent, the net return from the total capital (£50,000) invested would then be £1700 = 3·4 per cent ($3\frac{2}{5}$). The estate, after these improvements had been carried out, could probably be sold, if desired, for at least £52,500—equal to twenty-five years' purchase of the combined rent and interest on improvements, which together would amount to £2100.

It is of great importance to inquire carefully into the past history of an estate before purchasing, particularly as to its productive power when it was in good tenantable order. The advisability of securing tenants that are enterprising and persevering, and who have a thorough knowledge of the art of stock-breeding — now the sheet - anchor of farming—is manifest. It is also important to purchase in a district where the labourers are industrious and well qualified for their work. Good roads and proximity to markets are advantages which should never be overlooked. Land that is exceptionally costly to cultivate, and land that is almost wholly unproductive in seasons of drought, it is best to avoid. The existence of limestone on an estate, where lime of good quality, suitable for agricultural purposes, can be obtained at a moderate cost, is a great advantage, particularly on estates where difficulty may be found in getting "seeds" (clover, &c.) to stand, and where root crops suffer by finger-and-toe disease. Where the tenants are ready to co-operate with the landowner in carrying out improvements that are for their mutual interest, the work of improving an estate is a most interesting, useful, and, with good management, remunerative occupation.

Costly Farm Buildings.

Costly farm buildings were never necessary for the profitable management of a farm. All outlay in connection with farming that is unnecessary is always unremunerative. As a former Agricultural Editor of 'The Field,' the late Mr Henry Evershed, once said, "There is undoubtedly economy in preparing and distributing food to a large number of animals concentrated within a small compass; but what is saved in labour and in roots is a poor compensation for what is lost by disease and accident, which seem to hang about some splendid farm-steadings most persistently. For one calf or foal which dies from exposure, ten go to the bad from cramp and taint; and both of these plagues are rarely long absent from costly farm buildings."

An impervious floor is far more important than an impervious roof. Impervious floors, for sanitary reasons, are a necessity wherever stock are housed; but for sheltering all kinds of store stock, open-boarded roofs are far better than slated roofs, which are much more costly. Sunshine and fresh air are essential to success in stock-breeding. No building provided for sheltering stock can be regarded as satisfactory unless Nature's freely-bestowed healers are admitted abundantly. A sunny aspect and a dry site should always be selected for buildings in which stock are to be housed. A well-paved yard covered by an open-boarded roof, and boarded on three sides and open to the south, provides economical, healthy, and sufficient shelter for all kinds of store stock. Such yards enable farmers to avoid the waste of straw and manure that necessarily takes place when yards are to a large extent uncovered. But, except in cold exposed northern situations, a yard only partly covered is infinitely more desirable for store stock than a slated building.

The cost of harvesting, and of carting manure on to the land, could, on many farms, be greatly reduced by providing open-boarded cattle-yards in close proximity to the fields where the crops are grown. In showery seasons the reduced distance of carting the corn would be a special advantage, as the crops, when the opportunity came, could then be quickly secured. The 5 per cent charged by the landowner would be cheerfully paid by the farmer, because the saving in labour would far exceed the cost by which it was secured.

The most important conditions for success in connection with the investment of capital in land are—(1) naturally fertile soil. (2) Tenants who thoroughly understand their business. (3) Industrious and capable labourers. (4) Expenditure calculated to secure the largest production at the least possible cost, and the execution of all improvements that are necessary for profitable production and to avoid waste. (5) Good markets. (6) Farms amply stocked with stock of the most suitable type for the district. (7) Moderate rents and security of tenure. Wherever these conditions largely prevail, land purchased on the basis of the rents now ruling may be regarded as the best high-class investment to be found in this country.

In April 1889 Messrs Norton, Trist, & Gilbert, of London, contributed an interesting statement of the prices realised by their firm for landed estates during one hundred years—1781-1880. Their letter was entitled "A century of land values." The average price per acre obtained for the 875,936 acres sold was £35, 5s. 6d.; the average rent per acre was about 23s. 6d.; the average number of years' purchase slightly exceeded thirty.

AVERAGE PRICE PER ACRE.

1841-50	£34	10	6
1851-60	37	17	10
1861-70	42	15	4
1871-80	50	16	5

The average price per acre for the forty years 1841-80 was £42, 2s. The average rent for that period was 27s. 4½d. per acre.

In the course of his able address, as President, at the Surveyors' Institution on the 13th of November 1905, Mr Charles Bidwell said in reference to the present value of land: "It may be a bold statement to commit oneself to, but I am of opinion that we have touched bottom, and that landowners and farmers, having been through the fire of adversity, are rapidly adapting themselves to the changed condition of affairs."

The farmers of this country have given ample proof of their courage and patience: however great the difficulties that they may be called upon to face in years to come, they are not the men to give in. They value their rich heritage of gathered experience, and they recognise that science and practice must go hand in hand. The late Sir Frederick Leighton once said that "true genius knows no hurry; patience is of its essence, and thoroughness its constant mark." I have faith in the men who are engaged in our oldest industry, and I believe that their business—wherever it is directed by intelligence and sustained by capital—will not be unrewarded.

Agriculture is certain to survive. "While the earth remaineth," we have the assurance that "seedtime and harvest shall not cease."

"Honour waits o'er all the earth,
Through endless generations,
The art that calls her harvest forth,
And feeds the expectant nations."

THE BOOMING OF FRUIT-GROWING.

By William E. Bear, Hailsham.

For some years past—indeed, ever since Mr Gladstone advised farmers to produce jam instead of wheat—the favourite panacea of our mentors for agricultural depression has been the increased raising of fruit. Excellent fruit of all the hardy kinds, it is triumphantly pointed out, can be produced in this country. Then why not grow all that the population consumes? In one connection this question is supremely foolish, because a large proportion of the fruit we import comes from climes more warm than our own, and therefore at periods when the corresponding home products are not ripe. If the United Kingdom were one great fruit-garden, our imports of foreign fruit would still be on a large scale.

Apart from the point last mentioned, however, a very curious density appears to pervade the minds of many people in reference to the whole question. It never seems to occur to them that the only way of keeping foreign and colonial products of any kind out of this country is that of underselling our foreign and colonial competitors. To produce enough of anything for home consumption would not *per se* be effectual. We must also sell the product at a price which would be ruinous to outsiders who can produce it most cheaply.

In the case of fruit, before even foreign produce which is ripe no sooner than our own could be kept out of the country by lowness of price, British fruit to a great extent would have to be left ungathered, because there would be a loss in picking and marketing it.

Fruit-growing in suitable soil and with good management has paid fairly, though not at all extravagantly, in the past, as a rule; but it would soon become entirely unprofitable if the great and rapid extension of the industry now so freely recommended were accomplished. Most of the estimates as to profits from fruit-growing published in daily papers and magazines are absurd exaggerations.

Moderate Progress alone advisable.

That there is room for steady and moderate extension of the fruit area of the United Kingdom may be admitted as a matter of course; but it is important to point out that there is nothing in existing circumstances to warrant extension in excess of the proportion commensurate with the increase of our population. Such extension has been in progress for many years, and, indeed, ever since the statistics of fruit-growing were first collected. Those statistics, it is to be observed, are very far from being complete in relation to the increase in the fruit area, as they are restricted to holdings of over one acre, to the exclusion of the many hundreds of thousands of allotments, small orchards, and gardens in which fruit-trees and bushes have been planted in recent years. It is well known that there has been a great movement among business men in all large towns towards residences in the surrounding rural districts, and nearly all the thousands of houses erected outside the populous suburbs, and a considerable proportion within them, have gardens attached in which fruit has been planted. Numbers of the houses have considerably more than an acre of ground attached to them, and some have many acres; yet, as they are neither agricultural holdings nor market-gardens, they are not covered by the official returns. It is probable, therefore, that the increase of the fruit area within the last ten or twenty years has been double that which is indicated by the statistics.

The Agricultural Returns show that the area of orchards on agricultural holdings of one acre or more in Great Britain rose from 221,254 acres in 1896 to 247,687 acres in 1906, denoting an increase of 26,433 acres, or nearly 12 per cent in ten years. In the same period the area under small fruit, some of which is grown in the orchards, advanced from 76,245 to 80,226 acres, the increase being 3981 acres, or 5·2 per cent. The smallness of this latter increase may be explained by the fact that between 1888, when the first return was made, and 1896 the small-fruit area of Great Britain had more than doubled, the figures being 36,724 acres for the former year and 76,245 for the latter. The slackening of the increase, in the light of what is known about prices, may be taken as an indication that it had been rapid enough before 1896 to cause frequent gluts in the markets, thus checking the ardour for extension. In the eighteen years ending with 1906 the increase was 43,502 acres, or over 118 per cent.

In Ireland the expansion of fruit land has begun only recently. No returns have been made of orchards in that country, and those of small fruit were started as recently as 1899, when they were inaccurate, in consequence of a misunderstanding of what was to be included under the designation. In 1900 the area returned was 4350 acres, and in 1905, the latest year for which the figures are available at the time of writing, it was 4531 acres. There is room, no doubt, for a much greater expansion of fruit-growing in Ireland, and it is now in progress under the encouragement of the Department of Agriculture.

The greater portions of these large increases in fruit acreage occurred before the booming of fruit-growing became common, showing that business men are fully alive to the advantages of fair openings for enterprise without any whipping-up. Moreover, as already stated, there is reason to believe that the total increases have been double those which are covered by the Agricultural Returns.

The Fruit Industry Committee.

The Departmental Committee on the Fruit Industry of Great Britain have done much to boom it, and have made some recommendations as to legislation which, if adopted, would lead to a very dangerous expansion of the fruit area. After citing the evidence of many growers on either side of the question of extension, they declared that "it is probable that a large extension of the industry at home might profitably be undertaken, if carried out with judgment, and that, if certain difficulties and drawbacks are removed, fruit-growing may progress as rapidly in the future as it has in the past."

It is to be feared that many persons will take the last part of this declaration of opinion without due consideration of the proviso preceding it. Nearly all the witnesses whose evidence in favour of extension is quoted, qualified their statements by basing them upon the initiation of a better system of distribution than that which prevails at present; while one extensive grower significantly said that "much more fruit-growing might be undertaken in this country if the foreigner did not increase his as well."

The "difficulties and drawbacks" alluded to by the Committee as requiring removal, if the great expansion indicated by them is to take place with safety, make a formidable list. As summarised in the report of the Committee, they include insufficiency of knowledge as to the right kinds and varieties of fruit to plant, soil, manuring, the pruning and general treatment of trees, diseases and insect pests and methods of combating them, and packing and grading; difficulties as to land tenure in reference to tenants' capital invested in fruit-planting; excessive valuation of fruit holdings for local rates and imperial taxation; excessive and preferential railway rates, unpunctual delivery, bad handling, pilfering, inadequate service, and refusal to pay claims; foreign competition and tariffs hostile to British fruit; insufficient inspection, especially of foreign fruit; difficulty of obtaining labour; insufficiency of markets and other market grievances; the ravages of birds; and the effect of the rise in the price of sugar upon the jam industry.

Except in reference to the fiscal question and preference railway rates (the former of which the Committee decided at the outset of their inquiry not to deal with, while they left the latter subject for the Committee specially appointed to consider it), the Committee made some recommendations, several of which are excellent; but they touched only the fringe of our system of distribution, the imperfections of which form the chief obstacle to profitable fruit-growing. Here it is to be urged that, if the removal of even the most serious of the disadvantages enumerated be necessary to the safety of any great expansion of the fruit area in this country, the fact should have been stated in connection with the formal list of recommendations, of which there are no fewer than forty. Surely an industry which needs reforms in so many directions should not be boomed until a complete reformation in it has taken place. The Committee, however, have proposed the application of State funds for the expansion of the fruit area, without any suggestion of waiting for the removal of hindrances to success in the fruit industry.

The Seamy Side of Fruit-Growing.

This is almost fully indicated by the list of disadvantages given above to those who know about the details; but the great cost of labour should be added to the difficulty of obtaining sufficient pickers in many districts.

With respect to land tenure, the subject is too wide for proper treatment in this article; but I know of only two systems suitable to the great investment of capital essential in fruit-growing, and they are ownership of the land to be planted and the Evesham custom. It is true that the Market-Gardeners' Compensation Act gives such security as can be ensured under the valuation system, but landlords generally refuse to let land under it.

One of the recommendations of the Committee is the adoption of the Evesham system, with one modification. The recommendation is that, "In cases where a tenant gives notice to quit, he shall not be entitled to receive compensation unless he presents to the landlord a successor who is willing to take over the holding at the same rent; that in the event of his so doing, and the landlord accepting his nominee, the compensation be paid directly by the new tenant to the old tenant; but that the landlord have the right to refuse to accept the outgoer's nominee, in which case he must pay compensation to the outgoer under the provisions of the existing law." Under the Evesham custom the tenant sells his improvements to a successor accepted by his landlord, whoever gives notice to quit; and the system is said by good authorities in the district to be satisfactory to all parties concerned.

That the taxation grievance is a real one to fruit-growers especially I know to my cost, having had my assessment put up enormously in consequence of fruit-planting, and long before there had been time for the plantations to pay expenses.

Notwithstanding the Report of the Committee on the subject, it must be maintained that railway abuses handicap fruit-growers in this country seriously.

It is not necessary to dwell upon the disadvantages of foreign competition to fruit-growers; and so long as one-sided free trade remains the fiscal system of this country, it is of no use to complain of hostile foreign tariffs. But for these tariffs, however, there is no doubt that a considerable export trade in fruit, and particularly hothouse produce, would be established, on account of the superiority of British fruit.

Birds and Insect Pests.

The ravages of birds claim serious attention, as they are among the greatest difficulties in the way of profitable fruit-growing. They were always bad enough, but have become enormously greater since the Wild Birds Preservation Acts were passed. This is less on account of the direct orders for the preservation of certain birds than in consequence of the general scare against bird-nesting which the orders cause among the inhabitants of rural districts ignorant of the law.

In the first place, bullfinches, sparrows, and other small birds partially denude gooseberry-bushes and plum-trees of their buds in the winter,—not only destroying the embryo fruit of one season, but also rendering the denuded portions of branches permanently barren. Later on, when fruit is ripe, immense numbers of blackbirds, thrushes, starlings, wood-pigeons, doves, tits, and other birds prey upon it, spoiling for market a hundred times as much as they eat.

Then, in addition to the ravages of birds, the fruit-grower has to incur great expense in fighting against insect pests and various fungoid and other diseases which, in spite of all efforts to combat them, do great damage to fruit crops. Indeed the outlay in wages for labour, and in machines and materials for spraying involved in these operations, is one of the many heavy expenses of the fruit industry.

The Committee's Recommendations.

Space is not available for noticing fully the Fruit Industry Committee's remedies for the disadvantages they enumerate. They make no fewer than forty recommendations and suggestions,—a number which seems to show that the industry requires a good deal of bolstering up before the great extension of it which they think desirable under certain conditions can safely be made. They also propose a good deal of coddling by the State,—partly to remedy existing disadvantages, and partly to promote otherwise the extension of fruit-growing.

In reference to the great and continually growing excess in the number of wild birds, the Committee urge that county councils, in the publication of any orders made under the Wild Birds Protection Acts, should clearly state the powers of owners and occupiers of land under these Acts. They suggest that the State should lend money to landowners for the payment of compensation to fruit-growers on leaving holdings, and make some proposals to remedy the abuses of the taxation of fruit-growers, market-gardeners, and glass-house nurserymen, and the exactions, preferences, and injustice of railway companies. Co-operation among growers of fruit is another suggestion.

The Committee also favour the giving of State aid to enable men not only to purchase small holdings, but likewise to equip them for fruit culture. But all proposals for setting men up in business with the money of the taxpayers are objectionable from several points of view. It is not right to risk the taxpayers' money in such a way, and it is unfair to men who are struggling to make ends meet by means of their own resources, often obtained by many years of stringent economy and self-denial, to set up against them fresh competitors by means of State funds.

The only way in which fruit-growers and market-gardeners on a small scale can get a living, as a rule, is by selling their produce by retail in the nearest towns. If they had to sell in the wholesale markets, their returns would be too small to yield them a living profit. In some towns there are retail fruit and vegetable markets, in which small holders can have stalls; but where there are no such markets, the only plan of disposing of produce with sufficient profit is that of hawking it from house to house. The number of small holders engaged in one or other of these methods of doing business is already so large that they compete quite keenly enough with each other, and the number of them increases at least as rapidly as that of possible customers, in most places. Then if, by means of State coddling, their number in any district should be suddenly increased by 50 per cent, or even by 25 per cent, as might easily happen, many of the old and new holders alike would be ruined.

The Marketing System.

The most formidable of all the disadvantages of fruit-growers named in the Report is described as "the insufficiency of markets, and other market grievances." The insufficiency of markets is treated to some extent by the Committee, while the far more important "other market grievances" are entirely ignored. There must be something wrong in a marketing system under which producers of fruit receive less than half what consumers pay, and it is unfortunate that the Committee did not fully investigate this serious grievance.

At present the bulk of the fruit grown in Great Britain is consigned to salesmen in the great markets, who sell it on commission to shopkeepers or jam manufacturers, though considerable quantities of soft fruit are sold directly by growers to the latter. The salesmen return just what prices they think proper, and growers have no means of testing the returns. All that they can do for their own protection is to consign only to men of honourable reputation, and to trust them implicitly. But there are rogues in all trades, and some of the most crafty may manage to keep clear of scandal.

Neither producers nor salesmen, however, have any power to prevent the chief cause of low wholesale prices for fruit, which is the extravagant profit demanded by the retail traders. To state this is not necessarily to declare that the profit charged is more than sufficient to afford the retailers a fair living. There are far too many of them, and each one has a house-rent to pay, and possibly a family to support, out of a business, in nine cases out of ten, very small. Moreover, the system of sending round to householders for orders, and then delivering fruit worth, perhaps, only a few pence, possibly giving credit also, is an extremely costly one, for which producers and consumers have to pay. It is not surprising, therefore, that retailers of fruit prefer large profits and small sales to large sales and small profits, because their expenses for horses, carts, and labour would be greatly increased under the latter conjunction.

The result is that the consumption of fruit, in consequence of the high retail prices charged for it, is vastly less than it would be under a less costly system of distribution, and thus artificial gluts in the wholesale markets are caused. Here we have a "vicious circle," to use a common phrase. Retailers charge high prices, which reduce the consumption of fruit, cause gluts in the markets, and thus enable them to keep on buying at extremely low rates.

Expenses of Fruit Culture.

Probably few of those who glibly recommend farmers and others to go in for fruit-growing have any idea of the capital required in the first instance, or of the annual expenditure afterwards. Mr C. H. Hooper, a few years ago, made inquiries among his fellow-growers in Kent upon this subject, and gave a great number of details in a paper which he read at a meeting of the Surveyors' Institution. He estimated the cost of planting, including plants and trees, but exclusive of the preparation of the land, at £4 to £5 per acre for strawberries; £8 to £10 for raspberries; £6 to £9 for red or black currants; £10 to £14 for gooseberries; £30 to £36 for bush apples or pears; and £8 for standard apples 30 ft. apart, with £7 per acre extra where they are planted in pasture and have to be substantially protected against live stock. The annual cost of manuring, cultivating, picking, rail, carriage, and marketing, with rent and rates, he put at £16 to £25 per acre.

Mr C. D. Wise, until recently manager of the fruit farm of about 1000 acres at Toddington, in Gloucestershire, when taking part in the discussion on the paper, said that he thought the estimates were too low. He estimated that it cost £24 per acre to plant a mixed plantation of trees and bushes, exclusive of the cost of wire-netting where it is needed, and £20 to £25 per annum to pay all the expenses of an acre of fruit in full bearing. To rent such a plantation, he added, needed a capital of £30 per acre; while to take bare land, plant, and cultivate it, required a capital of £80 per acre. No doubt, in the latter sum he allowed for the losses incurred for some years before the plantation becomes remunerative; also for occasional years afterwards, when losses would be incurred through partial or complete crop failures.

The novice in fruit-planting seldom takes sufficient account of the years during which his plantations will be sources of loss. Apples and plums do not usually pay expenses until the sixth season after planting, and for the first two years, as they should not be allowed to fruit, they return nothing, while in the third season the value of the crops is very small. In the meantime rent, or interest on capital invested in land-purchase, rates, labour, manure, and spraying materials, make very heavy outgoings. Small fruit is more quickly remunerative, particularly strawberries; but a mixed plantation of apples or plums and bush fruits, in spite of the returns on the latter, will seldom yield a profit before the fifth season from the time of planting. It is true that if strawberries or vegetable crops are grown between the trees and bushes for the first two or three years, the returns are greatly increased; but the labour is enormous, and the economy of horse cultivation is prevented.

The novice, too, will inevitably find that he has to buy his experience at a high rate, however well he may have studied the theories of fruit-growing or its practice on other holdings than his own. He may discover unexpected faults or defects in his soil, and he will certainly find that certain varieties among the fruits planted do not succeed well on his farm. In all probability, again, the damage done by insect and fungus pests and by birds will far exceed his expectation, as his expenses almost certainly will.

Recapitulation.

In the preceding remarks it has been indicated that the representations of the profits of fruit-growing have been enormously exaggerated by the boomers of the industry, while losses and difficulties have been as regularly ignored or minimised; that it is hopeless to attempt to stem the tide of foreign and colonial competition in the fruit markets; that the fruit area has been increasing at least as rapidly as the demand for its produce under the existing system of distribution, as indicated by gluts in the markets whenever there is even a fair crop; that the extension of that area by the setting up of new growers in business by means of State funds would be not only a hardship to payers of rates and taxes, but also unfair to men, and particularly to small holders, who have established themselves by their own resources, often after many years of hard work and stringent economy and self-denial; and that the disadvantages of the industry, particularly the system of distribution, are very serious.

Nothing but harm can come of the inconsiderate whipping-up of any branch of business. There are always plenty of men wide-awake enough to see any opening for enterprise that promises to be profitable; and it is desirable to leave the distribution of business energy and capital to the unbiassed judgment of investors, instead of endeavouring, by means of artificial stimulants, to multiply the members of one particular branch of industry.

THE CHEMICAL COMPOSITION OF BUTTER.

By Charles Crowther, M.A., Ph.D., Lecturer in Agricultural Chemistry in the University of Leeds.

One of the gravest problems with which the British dairying industry is faced at the present day arises from the alarming extent to which the practice of butter adulteration has undoubtedly increased in recent years.

The detection of such adulteration is at present based upon the investigation by chemical experts of samples taken in accordance with the Sale of Foods and Drugs Acts. The results of these investigations are interpreted by the analyst by comparison with "standards," one of which—the percentage of water—is fixed by law, whilst the others are left to his discretion. The practice is, in fact, similar to that followed in the case of milk, and is beset with similar difficulties owing to the fact that butter, like milk, is a mixture of widely varying composition. The extent to which the chemical composition of butter may vary is thus a matter of the highest importance to all concerned in the production, sale, and analysis of butter.

A large amount of information on this point was accumulated by the Departmental Committee on Butter Regulations appointed in July 1901, and was summarised in the Final Report issued in December 1903, in which the adoption of certain "limits" as criteria of purity was recommended.

The analytical evidence then available (1901) regarding the variations in chemical composition of butter produced in the United Kingdom was very meagre compared with the evidence available in the case of the chief Continental butters. For the information of the committee, therefore, a special inquiry was carried out during 1901-2 in the Government laboratory at the instance of the Board of Agriculture, in the course of which nearly 400 samples of butter obtained from various parts of the country were examined. The results are given in detail in the Minutes of Evidence to Final Report, Appendix XXX., pp. 577-588.

The samples dealt with in this inquiry included two series of ten each from the Manor Farm, Garforth. Some of these Garforth samples were strikingly exceptional in chemical composition, and therefore, in view of this fact and of the urgent need for further data on the general question of the possibilities of variation, the writer commenced in March 1904 a series of analyses of the butter made from the mixed milk of the 15-20 cows kept on this farm. The analyses have been continued until June 1906, and comprise 126 samples.

No changes were made in the ordinary treatment of the cows, except during the period of the feeding experiment described by the writer in the 'Transactions' for 1906, pp. 110-142. During this period (Aug. 8–Oct. 9, 1905) some of the cows received a heavier allowance of decorticated cotton-cake than would otherwise have been the case.

The separation, ripening, and churning of the cream and the working, &c., of the butter were carried out in accordance with the ordinary practice of the Manor Farm Dairy, under the supervision of the Instructress, Miss A. D. M'Kerrow, to whom the writer is deeply indebted for the care taken in preparing and forwarding the samples. Unless otherwise stated, the butter was brined. The samples were forwarded to the University in 8-oz. wide-necked bottles fitted with cork-lined metal screw-caps, and were analysed as soon as possible after receipt.

It is greatly to be regretted that throughout the whole period the time available for the investigation of the samples has been so limited that only a few data could be determined with each sample. Especial importance has therefore been attached to the two points in respect of which "limits" were suggested by the 1901 Butter Regulations Committee—viz., the *water-content* and the "*Reichert-Wollny Number.*"

The data obtained are recorded in Table VIII. (pp. 71-73), in which are given also further particulars concerning the samples.

In the following pages the data are discussed in respect to the evidence they afford as to the causes and extent of variation in the composition of butter. The opportunity is also taken of drawing attention to the chief conclusions arrived at in the Board of Agriculture inquiry and in the more extensive investigations carried out in recent years in other centres, notably in Holland and Denmark.

Average Composition of Butter.

Butter is a mixture in varying proportions of *water*, *milk-fat*, *curdy matter*, and *mineral matter* (chiefly salt).

The average composition of the Garforth samples (*vide* Table VIII., p. 73) was as follows:—

Water, per cent.	**Fat,** per cent.	**Curd,** per cent.	**Salt,** per cent.
11·7	86·7	0·8	0·8
(Mean of 119 samples)	(Mean of 49 samples)	(Mean of 50 samples)	(Mean of 84 samples)

The average composition of the samples dealt with in the Board of Agriculture inquiry (May 1901–May 1902) is given below[1]:—

TABLE I.

	Water.	Fat.	Curd.	Salt.
	Per cent.	Per cent.	Per cent.	Per cent.
Garforth (20 samples) . .	12·72	85·80	0·84	0·64
English butter (130 ")	11·89	86·31	0·91	·81
Scottish butter (117 ")	14·07	83·86	1·26	·88
Irish butter (93 ")	13·40	84·09	0·88	1·63
All samples (340 samples)	13·05	84·91	1·02	1·02

It will be noted that the averages for the two series of Garforth samples are in close agreement with each other and with the general average for the samples from English farms and dairies.

The Scottish average is appreciably higher in water and curd, but too much importance must not be attached to this, since, for reasons dealt with in the Report (Minutes of Evidence, Appendix XXIX., p. 505), the bulk of the samples were obtained from farms in the extreme north and north-west.

Variation in the Water-Content of Butter.

The extent to which the percentage of water may vary in genuine butter is a matter of the highest importance in view of the existing regulation of the Board of Agriculture—framed in accordance with the recommendation of the Departmental Committee—that, for the purposes of the Sale of Foods and Drugs Acts, butter containing more than 16 per cent of water shall be regarded as not genuine until the contrary is proved.

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[1] These averages have been calculated by the writer from the data given in the Minutes of Evidence, Appendix XXX., pp. 579, 580. Samples were received from 13 English, 14 Scottish, and 12 Irish farms or dairies.

The maximum and minimum values recorded in the writer's analyses of Garforth butters, and in the course of the 1901-2 inquiry, were as follows:—

TABLE II.

	Percentage of Water— Maximum.	Minimum.
Garforth, 1904-6 . . .	14·8	9·3
Garforth, 1901-2 . . .	15·52	10·23
English samples, 1901-2 .	19·27	9·14
Scottish samples, 1901-2 .	26·90	8·50
Irish samples, 1901-2 . .	16·03	9·98

It is of greater interest, however, to note the frequency with which the different percentages between these limits were met with. The following table will give some idea of this.

TABLE III.

	Number of Samples of Butter containing Percentage of Water.											
	9 -10.	10·1 -11.	11·1 -12.	12·1 -13.	13·1 -14.	14·1 -15.	15·1 -16.	16·1 -17.	17·1 -18.	18·1 -19	19·1 -20.	Above 20.
Garforth, 1904-6 .	7	23	52	23	12	2	..	..	...	...	..	.
Garforth, 1901-2 .	...	4	1	6	5	3	1		...	.	..	...
Other English samples, 1901-2	12	20	40	21	9	6	...	..	.	...	2	...
Scottish samples, 1901-2	3	8	8	25	18	18	18	6	4	4	2	3
Irish samples, 1901-2	1	4	8	16	32	24	6	2	..		...	...
Totals . . .	23	59	109	91	76	53	25	8	4	4	4	3
Percentage of total (459 samples)	5·0	12·9	23·7	19·8	16·6	11·5	5·5	1·7	0·9	0·9	0·9	0·7

95 per cent. 5 per cent.

These data furnish a striking vindication of the "standard." The only apparent exception is in the case of the Scottish samples,[1] which furnish no fewer than 19 of the 23 butters containing more than 16 per cent of water. There is no apparent regularity in the occurrence of these excessively moist Scottish samples. They were distributed amongst 10 of the 14 centres from which samples were received, although indeed 5 centres were each responsible for only one such exceptional sample. In no case did the production of butter so highly charged with moisture appear to be the general rule, although it is obvious that the Scottish butters were in the main decidedly moister than the English samples. The explanation probably lies in differences in the general butter-making practice of different localities.

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[1] The unrepresentative character of these samples has already been referred to (p. 57).

It is worthy of note that in the case of the 5 monthly samples prepared at the Kilmarnock Dairy School for the 1901-2 inquiry, the water-content ranged from 10·14 to 13·36 per cent (mean, 11·84 per cent)—limits which compare very favourably with those for the Garforth and other English samples.

It is clearly a matter of no difficulty, where approved methods of manufacture are practised, to produce butter containing less than 16 per cent of water. A limit of 15 per cent ought, indeed, very rarely to be exceeded.

Causes of Variation in the Water-Content of Butter.

The water-content of butter is affected by many factors, but is very largely determined by the nature and amount of the *working* or kneading to which it is subjected.

Good butter, as it comes from the churn, will contain on the average about 19 to 20 per cent of water. It is impossible, even were it desirable, to remove the whole of this water. Indeed, as shown above, butter containing less than 10 per cent of water is very exceptional.

The driest butter is, moreover, not necessarily the best in point of quality. In general, a water-content of 11-13 per cent will probably give the best results.

The extent to which the water can be removed in the working is determined largely by the degree of destruction of the "grained" texture brought about in the process. The more this granular texture disappears, the less effective will be the removal of water. Within limits, the softer the butter-fat the greater will be the destruction of "grain" produced by the working, and the moister, therefore, the resultant butter. Undue hardness of the butter-fat, especially if large-grained, will, however, also impede the removal of water.

The hardness of the butter-fat is notably affected by the nature of the food of the cow and the temperature of the dairy.

Obviously, then, in so far as they affect the consistency of the butter-fat, the *food of the cows* and the *temperature of the dairy* will exert an influence on the moistness of the final product.

This being so, in view of the great differences in these respects at different times of the year we may expect to find *seasonal* differences in the average water-content of butter. The following averages, calculated from the data under consideration, support this view:—

TABLE IV.—Average Percentage of Water in Butter at Different Seasons.

	Garforth. 1901-2. 1904-6.	1901-2 Inquiry.			All samples.
		English.*	Scottish.	Irish.	
Spring (March, April, May) .	11·7	11·1	12·7	13·0	12·1
Summer (June, July, Aug.) .	12·0	12·5	14·5		13·0
Autumn (Sept.. Oct., Nov.) .	11·5	12 1	14·3	13 7	12·8
Winter (Dec , Jan., Feb.). .	12·3	11·7	14·7	13·5	12·9
Mean: Spring+Autumn . .	11·6	11·6	13·5	13·3	12 4
„ Summer+Winter . .	12·2	12·1	14·6	13·5	12·9

* Excluding Garforth samples.

It will be noted that in every case the maximum is either the summer or winter average, whilst the spring and autumn averages contain the minima. Taking the average of all samples, the effect of season would appear to be measured by a difference of about 0·5 per cent in the water-content.

Other factors which affect the water-content of butter are the *size of grain* formed in the churn, the *temperature of churning* and of the *water used for washing*, the use of *salt*, and the *interval between two workings, or between salting and working.*

In general, the lower (within the usual limits) the temperature of churning and of the wash-water, the smaller the size of the grains, and the longer the interval between salting and working, the drier will be the finished product. The use of salt also tends in the same direction, as the following data (Table V.) clearly indicate:—

TABLE V.—Influence of Use of Salt on Water-Content.

Comparison of Scottish Butters from same Dairies (1901-2 Inquiry).

	Salted (31 samples).	Unsalted (34 samples).
Average percentage of water . .	13·68	15·34

These data illustrate very strikingly the now well-established fact that the judicious use of salt in butter-making (apart from "pickling") tends rather to diminish than to increase the proportion of water in the final product. The indicated difference of 1·66 per cent must, however, be regarded as extreme. The difference in water-content between well-made salted and unsalted butters is usually much less than this.

The salt remaining in the butter has apparently little or no influence on the water-content, as the following data show:—

	Percentage of Salt—	
	Above average (0·8).	Below average.
	Percentage of water.	Percentage of water.
Garforth (1904-6) .	11·79 (mean of 28 samples)	11·74 (mean of 52 samples)
1901-2 Inquiry . .	12·94 (mean of 162 samples)	13·15 (mean of 178 samples)

A greater or less amount of salt will not of itself cause a higher or lower proportion of water.

BUTTER-FAT.

The characteristic ingredient of butter is, of course, the fat. On reference to Table I. (p. 57) it will be noted that, on the average, butter contains 84-86 per cent of fat.

It is in the nature of this fat that the chief difference between butter and "artificial butter" or margarine lies.

All fats (and fatty oils) are made up of combinations of glycerine with certain substances of the nature of acids. These combinations are referred to as glycerides, and the natural fats are mixtures of such glycerides.

The individual acids are to a large extent the same in all fats, but there is a great difference in the *proportions* in which they are present (combined, of course, with glycerine) in different fats.

These fatty acids may be roughly divided into two classes, viz.:—

Volatile Acids—*i.e.*, acids which, when added to boiling water, readily pass away with the steam.

Fixed Acids—*i.e.*, acids which cannot be vaporised in this way.

Butter-fat is sharply distinguished from the great majority of the natural fats, and in particular from those fats which are or may be used in the preparation of butter substitutes, by its relative richness in glycerides of volatile acids and corresponding poverty in glycerides of fixed acids.

So great is the difference in this respect between the fat of butter and all other fats that the proportion of volatile acids is regarded by analysts as the safest guide in the detection of adulteration; and the Butter Regulations Committee, indeed, recommended the introduction of a "standard" based thereon (see below).

The accurate estimation of the proportion of volatile acids present (as glycerides) in a sample of butter is a matter of some difficulty, and the results obtained by different analysts are only strictly comparable when the methods used are identical in every detail. Accordingly the Principal of the Government Laboratory and the Society of Public Analysts have agreed upon a method which is now uniformly carried out in butter analysis. This method was originally suggested by Reichert, and has been modified in detail by Meissl and by Wollny, and is hence commonly referred to as the Reichert-Meissl or Reichert-Wollny method, the result obtained being referred to as the "Reichert-Wollny Number" of the sample of butter. A butter rich in glycerides of volatile acids will give a high Reichert-Wollny number, whilst butter poor in volatile acids will give a low Reichert-Wollny number, the average being about 27-28 (*vide* Table VI., p. 63).

Variation in the Reichert-Wollny Number of Butter-Fat.

The proportion of volatile acids present (as glycerides) in butter-fat is not constant, Reichert-Wollny numbers as low as 18 and as high as 36 being met with. These extremes occur very rarely, however, and on the basis of the evidence placed before them the Butter Regulations Committee, with few dissentients, recommended the official adoption of the Reichert-Wollny number 24 as the "limit" below which the presumption of adulteration with foreign fat should be raised.

This recommendation has not been adopted by the Board of Agriculture, but it is nevertheless of interest to bear it in mind in connection with the following discussion of the Garforth and other data.

The extreme Reichert-Wollny numbers brought to the notice of the Butter Regulations Committee were 18·4 and 35·6.

The extremes found in the Garforth (1904-6) samples (Table VIII., pp. 71-73) were 21·2 and 34·3, whilst the extremes in the case of the earlier Garforth samples prepared for the 1901-1902 inquiry were 19·4 and 28·9.

It is of greater interest, however, to ascertain the extent to which the Reichert-Wollny numbers are evenly or otherwise distributed between these extremes. The following table (Table VI.) gives information on this point:—

TABLE VI.—FREQUENCY OF OCCURRENCE OF DIFFERENT REICHERT-WOLLNY NUMBERS.

REICHERT-WOLLNY NUMBER.	GARFORTH, 1904-6.	1901-2 INQUIRY.			ALL SAMPLES.	
		English.	Scottish	Irish.		
	Number of Samples.				Total Number.	Percentage of total.
Below 21 . .	. .	2	...	1	3 } 45	0·8 } 9·9
21–21·9 . .	6	1	...	1	8	1·7
22–22·9 . .	4	4	2	1	11	2·4
23–23·9 . .	6	9	4	4	23	5·0
24–24·9 . .	13	6	2	5	26 } 420	5·6 } 90·1
25–25·9 . .	18	12	9	5	44	9·4
26–26·9 . .	17	11	13	12	53	11·4
27–27·9 . .	9	20	13	16	58	12·5
28–28·9 . .	11	31	18	23	83	17·7
29–29·9 . .	10	20	20	10	60	12·9
30–30·9 . .	11	12	16	10	49	10·5
31–32 . .	17	3	10	3	33	7·1
Above 32 . .	4	...	8	2	14	3·0
Average Reichert-Wollny Number	27·3	27·3	28·6	27·8	27·7	

It will be noted that of the 465 samples tabulated, 45 (=9·9 per cent) gave Reichert-Wollny numbers below 24. In other words, in the ordinary course of analysis, using the standard suggested, the presumption of adulteration would have been raised in the case of practically 10 per cent of these samples of genuine butter.

The proportion is slightly higher in the case of the Garforth 1904-6 samples, of which 16 (=12·7 per cent) fell below the "limit." Of the 20 samples from Garforth, included in the 1901-2 inquiry, no fewer than 9 fell below the limit, 2 samples being, indeed, exceptionally low (19·9, 19·4). These samples were, however, prepared from the milk of two small groups of cows (six and three cows respectively), and the more comprehensive data furnished by the later samples indicate that, taking the whole year round, the mixed butter-fat of the whole herd on this farm is probably little, if at all, below the average for the rest of the country in its content of volatile acids. There is no reason to believe that the range of variation is greater there than in the case of other herds of similar size and under similar conditions of treatment.

On referring again to Table VI. it will be noted that more than 96 per cent of the samples fell between the limits (Reichert-Wollny numbers) of 21 and 32, and that more than 80 per cent fell between the limits of 25 and 32—the average Reichert-Wollny number of all the samples being 27·7.

It remains to examine the causes of this variation in the proportion of volatile acids present (as glycerides) in butter-fat, and the extent to which they can be brought under control. These points have been the subject of a very large amount of investigation in recent years at various centres, notably in the butter-producing countries of the Continent and in America, and it is now possible to state what are most probably the chief causes of variation. These are dealt with in the ensuing sections, and illustrated as far as possible by means of the Garforth and other data under review.

The changes in the content of volatile acids are accompanied by other changes in the physical and chemical characteristics of the butter—*e.g.*, colour, hardness, taste, &c.—but the consideration of these lies beyond the scope of the present communication.

Causes of Variation in the Proportion of Volatile Acids present (as Glycerides) in Butter-Fat.

The chief causes of variation in the composition of butter-fat are—

1. The individuality of the animal.
2. The period of lactation.
3. The character of the food.
4. The climatic and other conditions that may affect the comfort of the animal.

The two former causes are, of course, permanently operative, whilst variations due to the two latter are more transient and irregular. These and other factors may act simultaneously, so that it is obviously impossible to say with certainty to what cause or causes the variation observed in any particular case is due. It must be understood, therefore, that in the subsequent references to the Garforth and other data the actual causes of the variations to which attention is drawn must be to some extent matters of conjecture, and the conclusions expressed must be regarded more as probabilities than as statements of proven fact.

Influence of the Individuality of the Animal.

The Garforth data afford no evidence on this point, but observations made elsewhere indicate very considerable differences in the proportion of volatile acids present in the milk-fat yielded by different cows of similar breed, age, stage of lactation, and in other ways strictly comparable.

These differences are, however, only likely to lead to practical difficulties in the case of very small herds (cp. p. 63), where the presence of an animal yielding butter-fat abnormally poor in volatile acids may cause even the mixed butter-fat of the herd to be unusually deficient in this respect.

The greater the number of animals kept, the more safely may this factor be ignored in dealing with the mixed produce of the herd.

Influence of Period of Lactation.

The advance of lactation is accompanied by changes not only in the amount but also in the *composition* of the milk-fat secreted, notably in the proportion of glycerides of volatile acids.

The influence of the individuality of the animal is nowhere more strikingly exercised than in the changes accompanying the advance of lactation, and hence no hard-and-fast rules can be drawn up for these. It appears to be the general rule, however, that the milk-fat secreted in the first few days after calving is poor in volatile acids, but improves very rapidly in this respect during the first month or two, this improvement being then steadily maintained until about the beginning of the last month or two of lactation, when the proportion of volatile acids commences to fall off rapidly.

The Garforth data afford only indirect evidence on this point, since they refer to the mixed butter-fat of the milk from 15-20 cows kept under variable conditions. They furnish, however, strong confirmatory evidence of the general truth of the above statement. Thus it is noticeable that in each of the three years the Reichert-Wollny number was highest during or immediately after the period in which most of the cows calved, and lowest immediately prior to this. Thus the striking rise, noted in February 1906 as compared with January, was undoubtedly due to the inclusion in the herd of three newly-calven cows. The monthly averages of the Garforth samples seem to indicate a steady fall in the Reichert-Wollny number with advance of lactation (see Table VII., p. 66).

It must be borne in mind, however, that the cows were subject to other changes besides advance of lactation. For example, in each year during the months of May to October they were at pasture day and night, receiving in addition a light ration of concentrated food, whilst during the rest of the year they were housed, and received principally hay, straw, and concentrated foods. These differences would undoubtedly have an effect on the composition of the butter-fat (see pp. 67-70).

The changes in the Reichert-Wollny numbers follow the sequence of the months so closely, however,—the highest values being recorded in the months of frequent calving, the lowest values in the months immediately preceding these,—that it is difficult to resist the conclusion that the advance of lactation was the principal factor affecting the proportion of volatile acids in the butter-fat.

TABLE VII.—MONTHLY AVERAGE REICHERT-WOLLNY NUMBERS OF THE (GARFORTH 1904-6) SAMPLES.

	1904	1905.	1906.
January . .	...	25·1	22·4
February . . .	...	26·0	27·9
March . . .	31·6	28·0	27·9
April	30·8	28·2	29·1
May	30·8	31·6	29·8
June	...	30·7	29·3
July	24·3*	27·1	...
August	26·4*	27·3	...
September . . .	25·9	25·0	...
October . . .	25·5	24·6	...
November . . .	25·3	21·8	...
December . . .	24·2	22·1	...

* One sample only.

The data obtained in the 1901-2 inquiry do not afford much conclusive evidence as to the influence of advance of lactation on the composition of the butter-fat; but Prof. Thorpe, in his report (Minutes of Evidence to Final Report, Appendix XXIX., p. 506), concludes from the data that apparently "change of food and other conditions of living produce a greater variation in the composition of butter in the case of cows which are late in their lactation-periods than in the case of cows which are in full milk or nearly so."

In view, therefore, of these facts it is obvious that the butter obtained from a herd of cows, most of which are "drying-off" at the same time, is liable at this time to contain so low a proportion of volatile acids as to lead the analyst into whose hands it may come, and who is not informed as to the stage of lactation of the cows, to suspect that the low proportion is due to deliberate mixing of other fat with the butter-fat.

If, however, the number of cows drying-off at any one time is only a small proportion of the herd, the proportion of volatile acids in the mixed butter of the whole herd will—other conditions being favourable—remain fairly steady throughout the year. Prof. Thorpe gives actual instances of the greater uniformity in the chemical composition of butter produced on farms where cows when nearly dry are systematically turned out of the herds and replaced by newly-calven cows, as compared with the butter produced on other farms under conditions in every way similar, except that attention is not paid to this "weeding-out process."

A strict regulation of times of calving is, of course, impossible in practice. It is only natural that most cows should be late milking in the autumn, since the spring months, when fresh food is abundant and the weather mild, form the most convenient and economical calving-time. Clearly, however, if butter is to be produced with such a proportion of volatile acids as will satisfy the analyst, then attention to the distribution of the calving of the cows over the year would certainly be a step towards securing this end.

Influence of Conditions affecting the Comfort of the Animal.

It has long been known that the composition of butter-fat varies with the condition of the cows.

In general, conditions tending to cause discomfort will lower the proportion of volatile acids in the butter-fat, the lowering being most marked in the case of cows well advanced in lactation.

The variations due to causes of this nature are, however, extremely irregular and not always in the same direction, being, of course, largely dependent upon the nervous temperament of the cow.

The variation has been most closely studied in connection with fluctuations of climate, and it seems to be very frequently, if not usually, the case that if the cows are subjected to *extremes of heat or cold* the proportion of volatile acids in the milk-fat decreases. This has been put forward as an explanation of the general poorness in volatile acid of butters from Siberia and other cold climates, and also for the low values frequently obtained in autumn with butters from warmer countries where it is the common practice to leave cows out at pasture very late in the year. It is, indeed, in the autumn months that the low numbers are, in general, most frequently met with.

The Garforth data (1904-6) lend no support to this view, the fall in the Reichert-Wollny number being unchecked by the housing of the cows in the autumn. Nor do the data obtained in the 1901-2 inquiry show any definite general connection between climate and composition of the butter-fat, butters coming from the extreme north of Scotland comparing very favourably with those from various parts of England and Ireland.

It is significant, however, that the greatest range of variation was found in butters coming from those parts of the kingdom where the climatic changes are most pronounced.

Moreover, both in the 1901-2 samples and in the later Garforth samples, individual cases of low Reichert-Wollny numbers are noticeable, in which the depressing factor is almost certainly discomfort of the cows arising from unseasonable weather. Thus, the only sample of butter taken at Garforth during July 1904 (No. 24, Table VIII.) was prepared from milk secreted during a day of pouring rain, and gave a Reichert-Wollny number of 24·3.

Further, in the case of the two groups of cows at Garforth, from whose milk samples of butter were prepared for the 1901-2 inquiry, the housing in the autumn resulted in each case in a substantial increase in the proportion of volatile acids. This is by no means exceptional, nor can the increase in many cases be attributed to change of diet. Numerous instances have been noted where the improvement was almost certainly due to increased comfort of the animal.

Obviously then, although the protection of the cattle from inclement weather may not in every case appreciably check the falling-off in the proportion of volatile acids, there is abundant evidence that it very frequently does so, especially where the housing is accompanied by a liberal improvement in diet.

It is further probable that attention to other conditions affecting the comfort of the cows—*e.g.*, *efficient ventilation of byres, regularity in milking, avoidance of disturbance*, &c.—will tend to minimise the falling-off in the proportion of volatile acids with advance of lactation.

Influence of Food.

No point has been more extensively studied in connection with butter-making than the influence of the food of the cow on the nature of the fat contained in her milk. This is especially the case in so far as the influence of the fat in the food on the butter-fat is concerned—a matter of great importance, owing to the great part played by oil-cake in the feeding of the dairy-cow at the present day.

It has long been known that the quality of butter can be very greatly affected by the food of the cow—*e.g.*, the softening and colour-producing effect of pasture, and the hardening and bleaching effect of decorticated cotton-cake. The influence of food on the churnability and general quality of the butter was, for instance, well demonstrated by the experiments of Mr Speir in 1895-97 ('Transactions,' 5th Ser., vols. viii. and ix., 1896, 1897).

Similar observations as to the influence of food have been made, from time to time, in connection with the Garforth samples, although the range of foods used on the farm during the period of the sampling was so limited that the data throw little light upon this subject.

The aspect of the question which has been most widely investigated during recent years is, however, the possibility, or otherwise, of the butter-fat being so seriously affected in composition by the food as to give rise to suspicions as to its genuineness when placed on the market. A very large number of data have been accumulated, and the conclusions based upon them are very conflicting, probably owing to the difficulty previously referred to of dissociating the effects produced by the food from those due to other factors, which would differ widely in different experiments.

It is impossible within the limits of this paper to touch upon all the different respects in which the composition of the butter-fat is affected by the nature of the food, and the following remarks on this subject are confined exclusively to the variations in the proportion of volatile acids.

The experimental evidence is, as above stated, conflicting, but there is general agreement that the changes in the Reichert-Wollny number due to food are as a rule relatively small, a rise or fall of more than two or three units being quite exceptional, especially in the case of concentrated foods. The amount and nature of the green food seem to exert the greatest influence in this respect. In the earlier stages of the grazing season, when the grasses are young and succulent, the proportion of volatile acids is usually well maintained; whereas during the later part of the season, when the autumn grass forms the main food of the cows, the Reichert-Wollny number tends to decrease. The Garforth data support this view, the Reichert-Wollny number being well maintained into July, but it is of course impossible to say to what extent the pasturage contributes to this.

The effect of oil-cakes and similar foods on the Reichert-Wollny number varies with their nature and the nature of the ration of which they form a part. In general, they produce the greatest change when fed alone and in considerable quantities, decorticated cotton-cake usually causing a slight rise, linseed-cake a fall, in the Reichert-Wollny number. When fed along with hay and cereal meals, however, their effect on the proportion of volatile acids in the butter is very slight. In view, however, of the more pronounced effects in other ways of these foods on the quality of butter, and especially of the possibility—demonstrated in some cases (*e.g.*, cotton-cake [1])—of some ingredients of the food-fat passing more or less directly into the milk-fat, it is not advisable to give oil-cakes very liberally to cows whose milk is to be used for butter-making.

[1] *Vide* Thorpe, Analyst (1898), xxiii. 255.

A daily allowance of 4 lb. per head may be suggested as a reasonable working maximum, the further requirements being met by a mixed ration of common farm foods.

Another inference which the investigations of recent years have rendered increasingly probable is that the volatile acids of the milk-fat are derived to a considerable extent from the similar acids generated in the digestive tract by bacterial fermentation of the easily soluble carbohydrates—notably, therefore, the sugar—of the food.

If this be true, it is to be expected that the supply of sugar in the food—*e.g.*, as molasses, bulbs or leaves of root-crops, &c.—will tend to increase the proportion of volatile acids in the milk-fat. Evidence that this is possible is rapidly accumulating—*e.g.*, Sjollema ('Proc. Roy. Acad. Amsterdam,' 1902, iv. 746) found that a very considerable increase in the proportion of volatile acids could be effected by giving the leaves and roots of sugar-beets and mangels to cows, although molasses was not so effective. It may be that the effect is not due solely to the sugar, but to the conjoint action of the sugar and other easily fermentable matters in the roots.

It is thus possible that where other, practically unavoidable, conditions tend to depress the proportion of volatile acids, the falling-off may be checked to some extent by increasing the amount of easily digestible carbohydrates—sugar for preference, especially in the form of "roots"—in the diet, in so far as practical considerations admit of this being done. This remedy is, however, open to the objection that sugar-feeding may lead to undue softness and undesirable flavour in the butter (*vide* Speir, 'Transactions,' 5th Ser., vol. ix., 1897).

Relation between Quality of Butter and Chemical Composition of Butter-Fat.

The facts discussed in the foregoing pages show clearly that the maintenance of a high proportion of volatile acids in butter may be a task of no little difficulty even to the farmer who is cognisant of all the measures that are likely to lead to that end.

The farmer is therefore perfectly justified in demanding proof that the proportion of volatile acids in a sample of butter is closely related to its quality as appraised in the market—an assumption that is tacitly made by the chemist. Is butter that contains a low proportion of volatile acids necessarily poor butter?

The information available on this point is as yet so meagre and unsatisfactory that it is impossible to give a definite answer to the question. Such data as are available give little evidence of any close connection between the quality of butter and the proportion of volatile acids present in it.[1]

At present it is difficult to see what incentive, apart from the desire to avoid legal troubles, the farmer has to increase his outlay in efforts to produce butter rich in volatile acids. So long, however, as the verdict as to the purity of butter is based upon its quantitative composition, so long will the cautious farmer be obliged to endeavour to secure the production of butter-fat well up to the average in composition, and to him the suggestions made in the foregoing pages, it is hoped, may be of use.

TABLE VIII.

Particulars of Samples of Butter prepared from Cream produced at the Manor Farm, Garforth (March 1904–June 1906)

Sample No	Date of Churning		Water	Fat	Curd	Salt	Reichert Wollny Number	Remarks	Dates on which cows calved	
	1904		%	%	%	%			1904.	
1	March	8	10·5				31·1		Jan.	10
2	"	10	11·5				21·3		"	10
3	"	15	11·4				32·0		March	1
4	"	17	11·5				31·9		"	9
5	"	22	11·4				31·7		"	20
6	"	24	11·7				31·8			
7	"	29	11·5				31·7			
8	"	31	11·0				31·0			
9	April	5	12·0				30·7		April	3
10	"	7	11·6				30·5		"	4
11	"	12	11·6				28·7		"	7
12	"	15	11·4				32·1		"	14
13	"	19	11·0				32·0		"	17
14	"	22	10·2				31·0			
15	"	26	14·6				30·8			
16	"	28	10·2				30·8		"	29
17	May	3	12·6				30·5		May	2
18	"	5	11·3				29·5		"	20
19	"	10	12·0				31·8			
20	"	13	13·0				30·6	May 13. Cows out at pasture day and night from this date.		
21	"	18	10·0				30·6			
22	"	19	11·5				31·3		June	15
23	"	25	9·5				31·6		"	18
24	July	25	11·3	87·1	·6	·9	24·3		July	20
25	Aug.	23	12·5	86·8	·4	·2	26·4			
26	Sept.	1	10·4	88·3	·7	·5	26·3			
27	"	1	9·4	89·4	·4	·7	26·7			
28	"	16	10·4	88·6	·4	·6	25·7			
29	"	21	11·6	87·0	·4	·8	23·1			
30	"	23			·5	·1	25·9			
31	"	28	10·9	87·7	·3	·9	26·9			
32	"	29	13·0	85·4	1·5	·1	26·4			

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[1] *Vide* Faber, Minutes of Evidence to Final Report of Departmental Committee of 1901 on Butter Regulations, Appendix XXVI., p. 493.

Table VIII.—Particulars of Samples of Butter—*continued.*

	Date of Churning.	Water.	Fat.	Curd.	Salt.	Reichert Wollny Number.	Remarks.	Dates on which cows calved.
	1904.	%	%	%	%			
33	Oct. 4	10·9	87·1	·5	1·3	26·3		
34	″ 7	11·6	85·2	2·2	·9	26·0	Oct. 14. Cows housed during night from this date.	
35	12	13·4	85·0	1·3	·2	26·1		
36	″ 14	12·9	84·9	·5	1·5	25·6		
37	″ 17	9·9	88·5	·5	1·0	24·5	Diaphragm churn.	
38	″ 20	11·3	86·4	1·0	1·2	25·7	Fishback churn.	
39	″ 25	13·0	85·5	·3	1·0	25·0	Diaphragm churn. Dry salted.	
40	″ 27	10·9	87·2	1·0	·8	25·7	Diaphragm churn.	
41	″ 31	10·9	88·5	·3	·2	24·5	Diaphragm churn.	
42	Nov. 3	12·9	86·0			25·6	Fishback churn.	
43	″ 7	11·9	87·3	·6	·15	25·5		
44	″ 10	10·7	87·1	1·6	·5	26·5	Diaphragm churn.	
45	″ 16	11·3	87·0	1·0	·7	25·2	Dry salted.	
46	″ 17	12·2	86·2	·6	·9	25·5	Dry salted.	
47	29	11·3	87·3	1·0	·35	24·6	Fishback churn.	
48	29	10·3	88·5	·8	·3	23·9	Fishback churn.	
49	Dec. 6	10·1	88·2	1·0		24·6		
50	″ 6	10·3	87·9	1·2	·5	23·9		
51	″ 13	11·8	86·5	·7	·9	24·3	Fishback churn.	
52	″ 28	9·3	...	...	...	24·1		
	1905.							1905.
53	Jan. 4	..	...	...	...	24·6		Jan. 4
54	″ 13	.	. .	...	...	25·1		
	20	11·8	...	...	...	25·5		
56	″ 23	11·4	...	...		25·0		
57	″ 31	11·5	86·7	·9		25·2		″ 31
	Feb. 14	13·2	84·4	1·5	·8	26·3		Feb. 13
59	″ 18	13·7	84·3	·6	1·3	26·2		
60	″ 25	13·7	84·3	1·5	·4	25·6		″ 23
61	March 20	10·5	86·8	1·6	1·0	29·5		March 3
62	″ 22	10·6	86·4		1·7	26·5		″ 15
63	April 1	11·3	86·3		1·2	29·6	Fishback churn.	″ 15
64	″ 7	11·5	86·2		·5	27·1	Fishback churn.	
65	″ 15	14·8	84·0	·8	·3	28·3	Fishback churn.	April 13
66	″ 22	10·7	86·6	1·7	·9	27·8		″ 18
67	″ 29	12·2	86·5	·7		28·2	Dry salted.	″ 18
68	May 5	11·9	86·3	·9		27·5	May 4. Cows at pasture day and night from this date.	
69	″ 9	11·1	86·9	1·2		32·0		
70	″ 16	11·9	86·1	1·2	·7	32·4		May
71	″ 23	11·7	87·3	·4	·5	31·9		
	29	11·6	87·1	1·0	·9	34·3	Dry salted.	
73	June 5	12·0	86·7	·3	·95	31·8		
74	″ 13	9·8	89·2	·3	·65	31·4		
75	″ 20	11·6	87·3	·3	·7	30·3		
76	″ 28	13·8	84·2	·2	1·7	29·2		
77	July 5	11·5	87·5	·4	·55	27·6		
78	″ 12	12·4	86·6	·5	·45	27·0		
79	″ 21	11·6				27·1		
80	″ 25	10·2				26·4		July 22
81	″ 31	11·9	...	...	...	27·2		″ 26
82	Aug. 8	11·4	...	..	...	27·1		
83	″ 15	11·0	...	...	. .	28·2	Dry salted.	
84	″ 22	10·8	..	..	·9	27·4		
85	″ 28	...	...	...	...	26·6		
86	Sept. 6	11·5	.	...	·7	26·4		
87	″ 13	11·4	. .	. .	·6	24·7		

TABLE VIII.—PARTICULARS OF SAMPLES OF BUTTER—*continued.*

Sample No.	Date of Churning.	Water.	Fat.	Curd.	Salt.	Reichert-Wollny Number.	REMARKS.	Dates on which cows calved.
	1905.	%	%	%	%			1905.
88	Sept. 20	11·9	...	...	·8	24·3		
89	" 26	11·7	...	...	·6	24·7		Sept. 26
90	Oct. 2	11·7	...	...	·8	25·0		
91	" 9	...	...	...	·7	25·5		
92	" 16	11·3	...	...	·5	24·4		
93	" 24	12·4	...	...	...	24·5		
94	" 30	12·4	...	...	·5	23·8	Dry salted.	
95	Nov. 7	11·2	...	...	·6	22·2	Nov. 1. Cows housed from this date.	
96	" 17	10·2	...	...	1·6	22·3		
97	" 20	12·5	...	...	·8	21·2		
98	" 27	9·9	...	...	·9	21·5		
99	Dec. 8	...	...	...	·9	21·5		
100	" 12	...	...	...	·5	22·5		
101	" 19	13·3	...	...	2·5	21·3		
102	" 29	11·6	...	...	·8	23·3		
	1906.							1906.
103	Jan. 5	12·6	...	...	1·6	21·6		
104	" 11	11·2	...	...	·9	22·8		
105	" 23	13·3	...	...	1·2	21 6		Jan. 22
106	" 30	12·9	...	...	. .	23·5		" 22
107	Feb. 6	11·9	...	...	·7	30·0		Feb. 1
108	" 13	11·3	...	...	·7	28·7		" 13
109	" 19	12·9	...	...	·6	26·6		" 26
110	" 27	11·8	...	...	·7	26·2		
111	March 5	12·8	...	...	·4	28·4	Dry salted.	
112	" 15	10·9	...	...	...	25·9		
113	" 27	13·7	...	...	...	28·3		March 27
114	" 30	11·1	...	...	...	28·8		" 29
115	April 6	13·4	...	...	...	29·0	Dry salted.	" 29
116	" 13	13·5	...	...	...	29·6		" 30
117	" 20	12·1	...	...	·6	28·6		April 15
118	" 27	12·6	..	...	1·05	29·0		
119	May 1	12·6	...	...	·5	30·0		
120	" 8	12·6	...	. .	1·2	28 8	Dry salted.	
121	" 19	12·4	...	. .	·8	32·2	May 12. Cows at pasture day and night from this date.	
122	" 25	13·5	. .	...	1·7	28·1	Dry salted.	
123	" 31	13·7	.	...		30·0		
124	June 8	13·0	...	...	·6	29·1		June 1
125	" 12	11·5	...	...	·7	29·2		
126	" 19	11·1	...	...	·7	29·6		
Minimum . .		9·3	84·0	·2	·1	21·2		
Maximum . .		14·8	89·4	2·2	2 5	34·3		
MEAN . . .		11·7	86·7	·8	·8	27·3		

The analyses of Nos. 1-23 were carried out by Mr W. Bywater, B.Sc., and of Nos. 45-50, 57 by Mr R. G. White, B.Sc., both at the time senior students in the Department of Agriculture of the University of Leeds.

EXPERIMENTS IN CROSSING POTATOES.

By John H. Wilson, D.Sc., F.R.S.E., Lecturer in Agriculture and Rural Economy in the University of St Andrews.

The potato has been made the subject of a great deal of experimentation. This has been due to the desire on the part of many to improve, or at least maintain, the quality and quantity of the starch-bearing tubers, which form one of the chief food-stuffs of the world.

The literature of the experimental work has naturally attained large and unwieldy dimensions. It is not my intention, however, to attempt to unravel the question of the origin of our cultivated potatoes, or to dwell on the labours of those who have raised and selected varieties, but simply to give some account of experiments and observations made during the past few years in my own plots at St Andrews. The present paper deals only with the first series of my experiments.

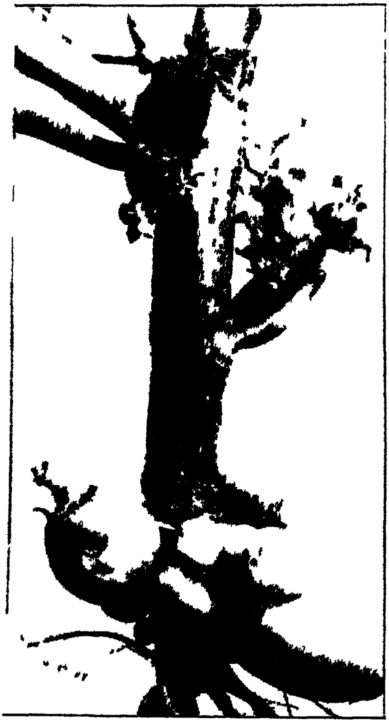

Fig. 41.—*Axillary tuber-development, caused by the early removal of a number of underground tubers.*

The Tuber of the Potato.

The botanical term "tuber" is applied to a considerable variety of swollen bodies acting as repositories of reserve substances. The potato tuber is a structure formed for the purpose of storing up starch, which is primarily produced in the leaves of the plant. It is a modified terminal portion of a branch which is developed underground. It is easy to demonstrate that the tuber is a branch and not a root structure, for if the tubers be removed as they are formed, the plant finds means of storing the starch reserves in swollen branches, produced, as ordinary branches are, in the axils of the leaves aboveground (fig. 41). These aerial tubers are necessarily different in detail from the normal underground ones, being leafy, branched, very green, and comparatively small. The ordinary tubers, if exposed for a short time to the light, will, as is very well known, become green. The development of chlorophyll is detrimental to the flavour of the cooked tuber.

The tuber, then, is a portion of a shoot formed of a considerable number of shortened joints, each joint being indicated by an eye, and having a close-set series of buds at the apex or rose end. The entire plant dies, with the exception of the tubers, which are left lying in position where they grew. When spring comes round, growth is resumed, and an effort is made, on the strength of the reserves, to send shoots in the first place into the air to tap the great source of energy —sunlight (fig. 42). It will be seen that no new plant has been produced: all that has happened is that the original plant has spread by a purely vegetative process. One plant, if worthy enough, could thus be spread over the world.

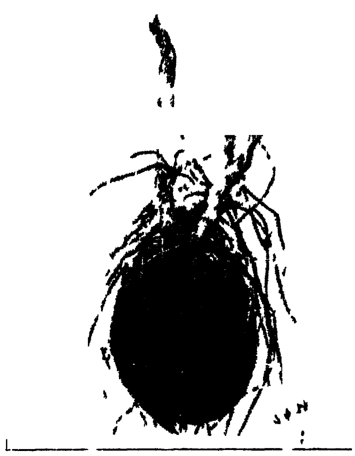

Fig. 42.—*Mature tuber sprouting.*

To facilitate propagation, it is customary to cut the tubers into pieces, thereby establishing a number of plants in place of one. In nature this does not take place. It is interesting, however, to observe that when the tuber is cut, a skin is soon formed over the exposed flesh, so that severed portions are almost as effectively protected as the whole was. Further, in cultivation, when the struggle for existence is no longer operative, the tubers grow to a great size, and may well be cut into pieces, each with a sufficiency of starch to give the new plant the best chance of establishing itself as a tuber-bearer. Here, as in other cultural operations, the factors to be taken into account are not all easily discernible, and it is sometimes difficult to decide what size of tuber, or portion of tuber, is the most profitable to plant.

So long as there is a healthy bud, a plant can be secured. If the bud is borne on a considerable piece of the tuber, the plant will succeed, although grown all along in the open; but if the piece is very small, pot culture may be necessary. With protection and a little heat under glass, cuttings can be struck, and these will produce tubers before long.

Deterioration of Varieties.

Much discussion has arisen as to the deterioration of the cultivated varieties of potatoes. From one cause or another, degeneration reduces the value, or even leads to the entire abandonment, of the majority of varieties in the course of a decade or two, and it is this circumstance that incites raisers to secure regenerated or new stock. I am not aware that any satisfactory explanation has been given of the actual causes of deterioration. The problems involved are by no means simple. Cases are known where one variety has been grown for many years without showing signs of deterioration. I have been told of a case where a variety was grown for over fifty years in the same garden in St Andrews, and was at the end of that period still presentable. The occult factor of "change of seed" stands in need of further elucidation before it can be cited as a certain means of upholding the vigour of a stock.

Over-propagation, either by dividing the tubers into small pieces or multiplying by layers or cuttings, is often mentioned as a sure method of bringing about weakening of the stock; but it is hard to see how any permanent ill effects can be produced in this way. We do not hear for certain of deterioration in garden plants such as the Pelargonium and the Calceolaria propagated continuously by cuttings, or in the Streptocarpus or the Begonia increased from portions of the leaves. One would expect that, given suitable conditions, the stock lessened in vigour temporarily by forcing would in a year or two regain the normal standard.

Under a different category come diseases due to specific organisms; but here, too, we meet with abstruse difficulties. No one has suggested that a mild attack of any potato disease has tended to render the subsequent crop immune to that disease. The general belief is that the stock affected by disease goes from bad to worse.

Is it quite clear how the too familiar disease due to the fungus parasite *Phytophthora infestans* is perpetuated? The suggestion made comparatively recently that the spores produced by diseased tubers left half exposed in the ground are a fruitful source of infection is interesting. The theory that bits of living mycelium are present in the diseased tubers, and that such threads resume growth and find their way into the growing buds, is not easy to substantiate. In any case, it should often happen that tubers absolutely free from disease germs and threads can be grown, and the pristine vigour of the variety be thus maintained. If this is so, it is conceivable that many of our old standard varieties which happen to have been sent abroad may still be cultivated in different parts of the world. If they have gone out of cultivation, it is because no special effort has been made to save them.

Selection of clean healthy tubers for planting is certainly a matter of great importance, but it is a mistake to suppose that a variety constitutionally weak will be brought to have better stamina by this simple expedient. One hears rumours that a good many alleged new kinds recently put on the market are merely selections from some well-known accredited variety or other. In some cases this may readily be so, the sender-out having been fortunate enough to get hold of a specially healthy specimen to originate his selected stock. Where selection only has been made, it is but fair that public acknowledgment of the source should be given.

The Sporting of the Potato.

Another vexed question is that of sporting. There is a widely current belief that many of our new varieties have originated suddenly as vegetative variants from the type. Sporting is by no means an unusual phenomenon; and it has been recently elevated to a position of higher consequence by Professor de Vries of Amsterdam, who has given the title *mutation* to a phenomenon corresponding to a sport. Neither sport nor mutation is a self-explanatory term. In some instances variation, indistinguishable at first sight from sporting, is traceable to the effects of crossing; but usually the term sport is retained for a spontaneous production for which there are no present means of accounting.

No sports have appeared in my experiments, nor have I personally ever met with any genuine case of sporting in the potato. Records given by Darwin and others show that sporting does occur. Doubtless many so-called sports are simply temporary variations due to some unusual condition of the soil or season. It is no uncommon thing to find tubers at one plant showing minor differences—one tuber being round and another oval, or one smooth and another netted. In the case of second growth, the differences between the first and later tubers are often well marked in the matter of form, size, and colour; but it is obvious, of course, that the disparity in age explains the diversity.

A common cause of error is the presence of tubers of one kind left in the ground to be planted up later with another. During the first summer of my experiments I found what looked like a purple-flowered sport in a line of white-flowered seedlings. The discovery of the same purple-flowered variety in more places than one settled the matter. By some accident it was there as a "rogue." It is likely that the great majority of cases of supposed sports have simply been due to mixture of the tubers planted or the introduction otherwise of rogues.

Experiments in Grafting.

A method of inducing variation, or of actual crossing, by grafting has often been tried. This is usually done by bisecting tubers of two kinds and putting the halves of the unlike kinds together. I have tried a variety of grafting experiments as follows: by halving lengthwise matured tubers, by doing the same with young growing ones, by inserting the bud of one kind into the tuber of another, by inarching the aerial stems, and by striking inarched cuttings,—but I have not by any of these means succeeded in getting variation or crossing. Examples of the scion affecting the stock are known amongst other garden plants, and graft-hybridisation is not an impossibility; but it seems absurd to expect anything to come of putting the cut faces of fully-formed starch reservoirs together. To succeed, one would probably require to be fortunate enough to bring about the union of bisected buds. If the result corresponded to the well-known instance of Adam's Laburnum,[1] one would expect to find amongst the progeny individual plants with *three* kinds of flowers, foliage, and tubers, two resembling respectively those of the parents and the third resembling a blend of the parental characters.

The Fruiting of the Potato.

Many potatoes in normal conditions bear flowers and fruit with seed. The word "seed" has, through absurd confusion of ideas, come to be used when the tuber is meant. If "tuber" is too scientific a term, "set" should be used. Many cultivated potatoes bear no flowers, others flower profusely, and between those extremes all possible gradations in flower-producing power are found. Again, some that flower well bear no fruit, some fruit moderately and a few heavily. The fruit is usually designated an "apple" or a "plum." It is botanically a berry, and it might as well be called so. It may be taken as certain that the chief cause of failure to fruit is the scarcity or inferiority of the pollen. Many varieties can be made to fruit by using the pollen of other varieties to fertilise them. A noteworthy instance of this is Up-to-Date, which is seriously lacking in pollen, but which has, nevertheless, been successfully pollinated from other varieties by a good many experimenters. I have crossed it with a number of other varieties.

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[1] *Laburnum Cytisus Adami* is stated to have been the outcome of budding *Cytisus purpureus* on the Common Laburnum. Examples are to be seen in which the Laburnum bears in an erratic way mistletoe-like tufts of the shrubby purple-flowered *C. purpureus* and branches with reddish flowers which are obviously hybrid.

One hears it often stated that to carry fruit lessens the tuber-bearing capacity of the plant. This remains to be proved. The difference in the crop of tubers would not amount to much although the berries were to be prevented from developing in a variety which fruited freely. It is by no means the case that to have great croppers we must select non-fruiting varieties. The best tuber-bearer of the first batch of seedlings I raised was also the bearer of the heaviest crop of fruit. The famous variety, the Victoria, raised by the late Mr William Paterson, must have borne fruit very freely. Mr George D. Paterson sent me lately a very considerable quantity of fine-looking seed which had been saved by the raiser. It had, however, quite lost its vitality, having been kept in a dry case for many years. Fruit-bearing may well be taken as a sign of constitutional vigour.

There is a complication, of course, arising from the presence of tubers as a natural means of perpetuation of the plant in default of seed. It is not easy to assign a reason for the evolution of tubers in a few members of the genus *Solanum* inhabiting South America, while they are absent from others there and elsewhere. Various suggestions might be made, such as the greater difficulty seedlings would have in withstanding the vicissitudes of climate and environment. In continuous cultivation no such difficulty has been presented to the plant; yet we are told that in the memory of man cultivated potatoes have become far less fruitful than they were formerly. The seeds one gathers are usually of good vitality, and the seedlings on the whole about as healthy as weeds. It may be found to be the case that it is largely a matter of chance that the varieties at present in cultivation are not marked fruit-bearers. Perhaps the fashion of discarding all varieties that have coloured tubers, however commendable they may otherwise be, may have something to do with the matter. In any large collection of varieties it is usual to find a good deal of fruit if the summer is a propitious one. In a dull, sunless season berries are scarce.

Insects are not required to bring about the pollination of the potato-flower. It is possible that in other countries insects may be attracted to the flowers. On very few occasions have I noticed—as Darwin also did—humble-bees visiting the flowers, and only when the weather was warm. There seemed to be little to induce the insects to cling to the flowers, the calls being brief. It does not appear that the visits would materially help the setting of fruit or bring about cross-pollination. The minute insect, Thrips, can be seen at work on the flowers, and it may be instrumental at times in carrying pollen from the anthers to the stigma of the same flower. The structure of the flower, however, points to self-fertilisation being the rule, the pollen, when present, being shaken out of the anthers on to the stigma. Sometimes the stigma does not project beyond the anthers, but that is an exceptional condition.

The potatoes we now cultivate may be regarded as all seedlings with a complex pedigree. We cannot expect to find them behaving as genuine wildings would do. If we sow their seeds, the seedlings are not at all likely to be exact repeats of the parents. We naturally look for an assortment of varieties which do not reach the high level the parents have attained as garden or field plants. I once grew a small number of seedlings from a self-set fruit of what was no doubt Myatt's Kidney, and my recollection is that the seedlings were indistinguishable from the parent. This is quite a possible state of affairs, but most likely it is exceptional.

The Crossing of the Potato.

It is sometimes stated that it is of service to remove the tubers from the plants, so as to induce freer flower-bearing. I cannot say that I have found this practice do any good. Checking by potting, or planting out under glass, seems also unnecessary. Other experimenters may have hit on methods unknown to me, but I imagine that what the majority of these will do will simply be to go into the garden or field, find pollen, and apply it in the usual way. There seems to be very little room for mystery in the process. The golden rule for the hybridist is to try again if he has not succeeded. Many crosses that were long considered quite impracticable have been accomplished by persistent repetition.

A precept of almost universal application in plant-breeding is, that one can never be at all sure what may be the outcome of an experiment. There are obvious general principles which will be found to operate in the way they have always done, but he is a bold man who undertakes to turn out a new variety to order, conform to schedule. The raiser of a new variety of potato sets before himself an ideal which, when analysed, is found to consist in the harmonious blending of a large number of characters, involving many factors of a very subtle, evasive, and intangible nature. Hitherto advances have been made largely by the exercise of experience, common-sense, and intuition on the part of the breeder, but lately he has been put in possession of information which may assist him greatly. Mendel has shown that what are called characters or points are often transmitted intact, so to speak—that is to say, each character is represented in the germ by an elemental or unit body or substance, which is guaranteed to reproduce that character in the progeny whenever a fitting opportunity occurs. In some plants, evidently not in all, these ultimate structural entities are amenable to rules, and are unusually accommodating in the hands of the breeder. In certain plants they can be almost absolutely relied on to behave in a consistent way, and the appearance of the characters they reproduce in a certain stated proportion in the progeny of a cross is a sure guide to the fixity or otherwise of those characters. The fixing of a desirable character has hitherto been done in quite an arbitrary way, and the persistent appearance of "rogues" in certain families has been an unsolved problem; but where Mendel's principle can be applied, the task of fixing can be taken up rationally, and the presence of unlooked-for varieties explained. It remains to be shown whether the potato conforms to Mendel's law to such a degree as to render its application of practical value to the breeder.

Seedling Potatoes.

The flower soon shows signs if it is fertilised, and the fruit swells fairly rapidly. One has to be prepared for partial failures. Fruits, although small, may contain a few good seeds. The seeds can be sown broadcast in a pot or box, and the seedlings pricked out when quite young; or they can be sown singly, wide enough to save the pricking out. Seedlings sown in March, and grown on in a greenhouse, are ready to plant out in June.

It is interesting to see the early start the seedling makes as a tuber-bearer. The first branches are produced in the axils of the seed-leaves. They bend downwards, enter the soil, and swell at their tips into tubers (fig. 43). Branchlets arise on those branches, or new branches appear higher up, and perform the same geotropic movement. Some of the seedlings are in a hurry to produce tubers; others (fig. 44) are more deliberate, and although developing a relatively large leaf-surface, seem either to be manufacturing no starch or to be using up directly what is produced.

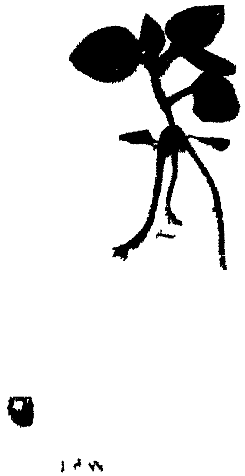

Fig. 43.—Seedling potato, to show method of development of the first tubers: c, seed-leaf.

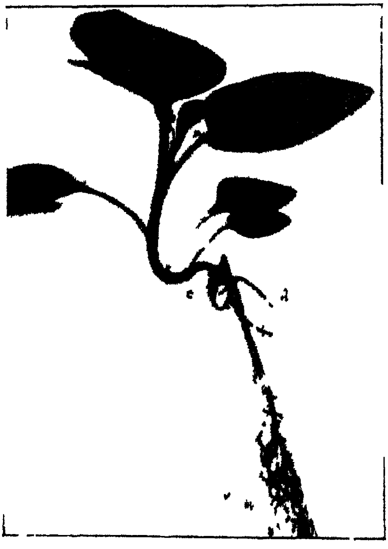

Fig. 44.—Seedling potato, to illustrate diversity of tuber-producing power. c, seed-leaf: d, first tuber-bearing branch.

The seedlings usually grow with great vigour, and many of them flower and a few fruit the first season. The heaviest weight of tubers I have had in a first-year's seedling is 6 lb. 4 oz. No special means were taken to secure this crop. In several cases I have found the heaviest tuber of a first year's plant turn the scale at 1 lb., and the heaviest of all was 1 lb. 4 oz. Free selection can be made at the first lifting. Many people imagine that seedlings of the first year are immune from disease. That is certainly not the case: the attack of *Phytophthora infestans* in first-year's seedlings is in some instances very severe.

The earliest successful experiments I carried out in crossing potatoes were with the following varieties: British Queen × Myatt's Kidney, Red variety (name unknown) × Myatt's Kidney, and Maincrop × Red variety. The last-named in each case was the pollen parent. A number of other crosses attempted did not succeed. The unnamed Red variety was sent from New Zealand as one of the varieties in much favour there. It is not a very shapely potato, but is a good cropper and disease-resister. It would doubtless be sent out from this country.

British Queen × Myatt's Kidney.

Fig. 45.—*Field of British Queen, in flower.*

British Queen is a mid-season variety, with robust, moderately tall haulms, and pure white flowers borne in profusion. Pollen is very scanty.

Myatt's Kidney is an early variety with short spreading haulms. The flowers are a washed-out mauve, numerous, and of good size. The pollen is plentiful. It is often found loaded with self-set berries of large size. As many as ten berries on a truss have been noted.

The only fruits in a field of British Queen (fig. 45) were the four secured by crossing with Myatt's Kidney. They were comparatively small, and contained respectively 47, 44, 30, and 12 seeds. The seeds were sown as described above. At re-potting it was observed that some of the seedlings produced tubers at a much earlier period than others. Very considerable diversity in form and character of leaf and in length and duration of haulm was observable. The power of resisting

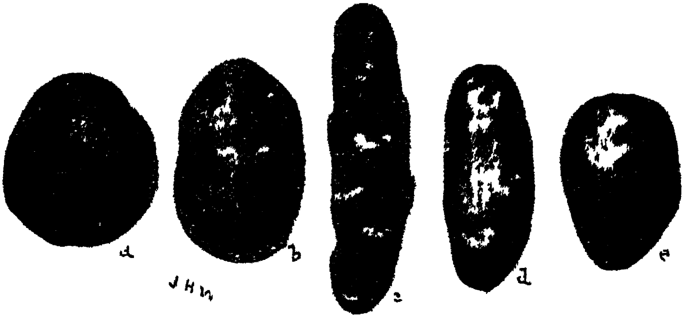

Fig. 46.—a, *British Queen;* e, *Myatt's Kidney;* b, c, d, *progeny.*

disease varied very considerably. When lifted it was found that there was great difference in tuber-bearing power, and the character of the tubers varied very much. In some plants the tubers were borne close to the base of the haulm, and were then easily lifted in a mass. In the other extreme there was little else present than a large mat of delicate root-like branches (stolons), with at best very small tubers. A third lot showed a fair crop, but the tubers were borne at the ends of long rambling branches, often so far from the base of the haulms as to be mixed with the tubers of neighbouring plants.

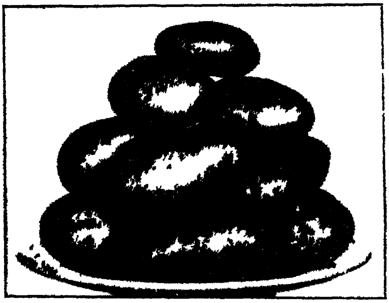

Fig. 47.—*Kate Kennedy (British Queen × Myatt's Kidney).*

A few of the plants bore tubers resembling those of the parents; the rest differed in one way or another (fig. 46). Sometimes very peculiar forms occurred. One plant, for instance, bore tubers characterised by being very long and narrow, cylindrical, with very deep eyes (fig. 46, c), and not unlike the variety called the Fir Cone. Another bore long curved tubers, and a third balloon-shaped ones. The great majority of the seedlings bore colourless tubers: a few bore pinkish tubers, but none purple or red. Some were smooth, others netted.

Among the seedlings many did not bear flowers: those that did so had, as far as records show, mostly purple flowers, and much fewer white ones. It was evident that a large proportion of the seedlings were not worthy of further cultivation, and they were destroyed before it was possible to see whether any principle could be found underlying their diversity. Only a few have survived the test of time. Special mention may be made of two of them, now named respectively Kate Kennedy and Bejant.

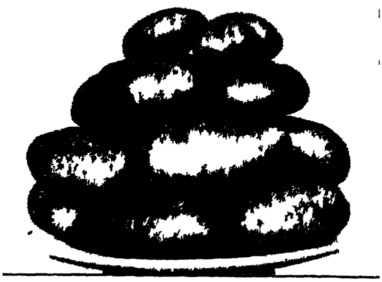

Fig. 48.—*Bejant (British Queen × Myatt's Kidney).*

Kate Kennedy (fig. 47) is a large, netted, white kidney, resembling its seed parent (British Queen) somewhat closely, and ripening as early. It is a very good cropper, and of fine quality.

Bejant (fig. 48) is an extremely early, netted, yellow-fleshed kidney of the highest quality. It is a very attractive variety, and ought to find its place amongst the finer garden varieties.

New Zealand Variety × self.

The Red variety (New Zealand) is a somewhat late one, with red, deep-eyed, round tubers (fig. 53, d) and very robust haulms, sometimes 4 feet high. The flowers are pale rose-purple, with white points. The pollen is fairly plentiful.

This variety was fertilised with its own pollen. One small fruit was secured, containing only twenty seeds. The seed, poorly ripened, germinated very slowly; indeed, only four plants were above ground after the pot had stood over four months in a greenhouse. Fifteen more seedlings appeared later. Many of the hybrid series of the same age were by that time in flower in the open. None of the seedlings were sufficiently large to plant out the first season. Of the few grown on, one had tubers extremely like those of the parent. In another they were identical in shape with the parent ones, but white. Another white occurred, but very unshapely and poor. The plant with red tubers bore deep rose-purple flowers; the plants with white tubers bore white flowers. No purple tubers appeared, but if a larger number of seedlings had been got, such might have been found to occur. None of the seedlings approached the parent in vigour. Although such was the result, we are not justified in regarding this experiment as a demonstration of the evil effects of in-breeding. The most suggestive point disclosed was the simultaneous loss of colour in the tuber and the flower.

New Zealand Variety × Myatt's Kidney.

In this experiment Myatt's Kidney was again employed as pollen parent. Two fruits were secured (fig. 49). The seeds were not counted, but were sown in separate pots. The first seedlings brairded in fourteen days. As usual, some were considerably ahead of the others. They were a much more robust race than that derived from British Queen × Myatt's Kidney. At lifting-time one was found with haulms 5 feet long, and still green and growing. As was to be expected from such a parentage, very great diversity appeared in the progeny. The seedlings from the one fruit, now designated A, numbered 51. Of these 37 were considered good enough to plant out. One of them died. Notes kept of the remaining 36 show that the tubers borne by the several plants included deep purple, light purple, red, pink, pink-eyed, and white. By separating these colours into white, purple, and a class to contain the others as intermediates, it was found that they were present in the following proportion: 11 whites, 13 intermediates, 12 purples. Here the ratio of more or less coloured tubers to whites is approximately 2 : 1.

Notes of the flowers of 17 out of the 36 plants were made, and of these 10 were white, the rest purple, purple with white, and rose with white. Five of the white-flowered varieties had colourless tubers, 4 had pink-eyed tubers, and 1 had red tubers slightly tinged with purple. On the other hand, a plant with white tubers was found to have its flowers rose with white tips.

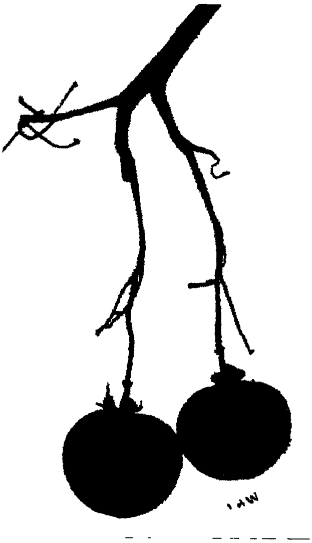

Fig. 49.—*Fruits secured by crossing Red Potato (New Zealand variety) with Myatt's Kidney.*

If colour were present at all in the tubers, it was sure to be developed in the eyes—that is, in the skin of the tuber in the hollow where the bud or buds lie. The colour present makes its appearance very conspicuously in the young blanched shoots, and less noticeably in the stems when they reach the sunlight and develop chlorophyll.

The other fruit B yielded 52 seedlings, of which 34 were planted out. The same variability was found in the tubers of this lot as in the above. In this case the colours were represented as follows: 11 whites, 12 intermediates, 11 purples.

All who have had to do with studies of heredity by statistical methods must perceive that the singularly exact correspondence of the terms of this table with those of the former must be a matter of chance to a great degree, because the numbers dealt with are so small. What we find for certain in the tables is that when a variety with red tubers is crossed with one with white tubers, a series of seedlings is produced in which purple occurs,—a colour present in neither parent,—and that the whites are considerably fewer than the coloured ones in the aggregate. We are led to suspect that the whiteness or colourlessness of the tubers is the recessive character of the Mendelian philosophy, and if that is so, white tubers are endowed with a feature which is associated with stability.[1]

The colour of the flowers in series B varied in a similar way with that of series A. Of 26 plants studied, 17 bore coloured flowers and 9 white. Five of the white-flowered varieties had also white tubers, the other 4 had pink-eyed tubers. Two of the other varieties with white tubers had faint purple with white, and 1 had rose-purple flowers. The remaining 3 with white tubers do not seem to have borne flowers. No deep-purple flowered variety was found to have white tubers.

The colour of the flesh is a character to which more attention should have been given. It varies in both series from what is perhaps best termed lemon, through shades of dull yellow to pure white. These several colours were in both series distributed in a bewildering way amongst the variously coloured tubers. The lemon was found present in examples of purple, rose, and white tubers. The same could be said of the white flesh and the intermediate shades. In a few cases the white flesh was found associated with white skin and white flowers. The whiteness of the flesh, however, is due to an entirely different cause from the whiteness of the flower. In series B the proportion of yellow- to white-fleshed in the tubers studied seemed to be 18 : 6. The observations made on flesh colour were somewhat hurried, but if the above is correct, it of course points to the possibility of the white flesh of the tubers being a recessive character. This ratio, however, did not seem to be borne out in 28 of series A studied, where the yellow and white appeared to occur in almost equal numbers.

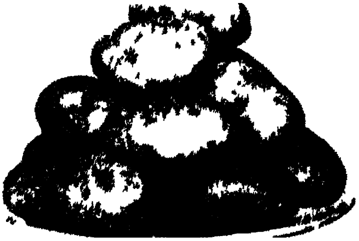

Fig. 50.—*Prior (Red variety × Myatt's Kidney).*

One of the best of the series A has been named Prior (fig. 50). It is a second early, flat oval, white with occasional slight tinge of rose-pink, well-netted, shallow-eyed. The flesh is yellowish-white. The average length of the tuber is about 4 inches. Very few small tubers occur. The shaws are robust, 2 to 3 feet high. The quality is excellent. Under generous conditions Prior is an exceptionally heavy cropper, the illustration (fig. 51) showing a drill which produced a crop reckoned as equivalent to about 17 tons per acre. It is practically disease-resistant.

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[1] Mendel, in his investigations with peas, found that a given character, *e.g.*, the colour of the pea, was either dominant (alone visible) or recessive (lost to sight) in the first cross, and that the dominant and recessive characters appeared in the second generation in the ratio 3 D : 1 R. He further found that the recessive character could be relied on as being a fixed one.

In series B there occurred a variety with a peculiarity which caused it to be discarded. The undesirable feature consisted (fig. 52) of a wedge-shaped hollow, sometimes quite shallow but oftener of considerable depth. When deep the tuber was seriously malformed. In a good many cases more than one indentation occurred, and when these indentations were deep the tuber was greatly mis-shapen.

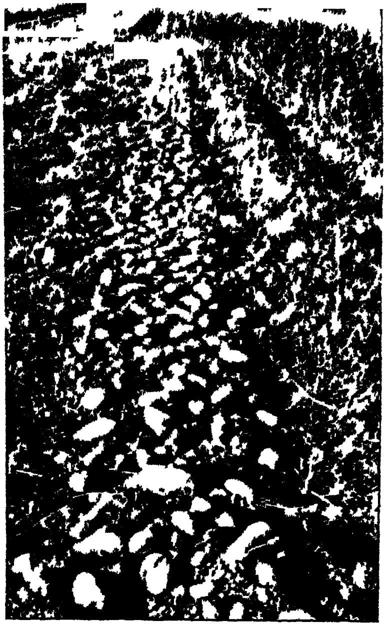


Fig. 51.—*Single row of Prior as lifted.*

Maincrop × New Zealand Variety.

Maincrop (fig. 53, a) is a variety which has been in cultivation for about thirty years. It is of comparatively robust habit. The tubers are white. The flowers are small, bright rose-purple, with the points of the corolla-lobes white. Pollen is scarce.

In this cross the pollen-bearing parent possessed the coloured tubers. As in the crosses between the New Zealand variety and Myatt's Kidney, both parents had coloured flowers. In the present case there was great similarity in the flowers of the parents.

One fruit was secured of this cross. It was accidentally broken off before it was quite ripe. It contained only 26 seeds, and of these 18 germinated, and the seedlings were planted out at the same time as those above described. They grew very well, and, taken over all, the haulms were considerably stronger than in the other series described. At lifting it was found that the tubers were purple, red, pinkish, or white. By grouping the red and pinkish together, the proportions were as follows: 4 whites, 11 intermediates, 3 purples.

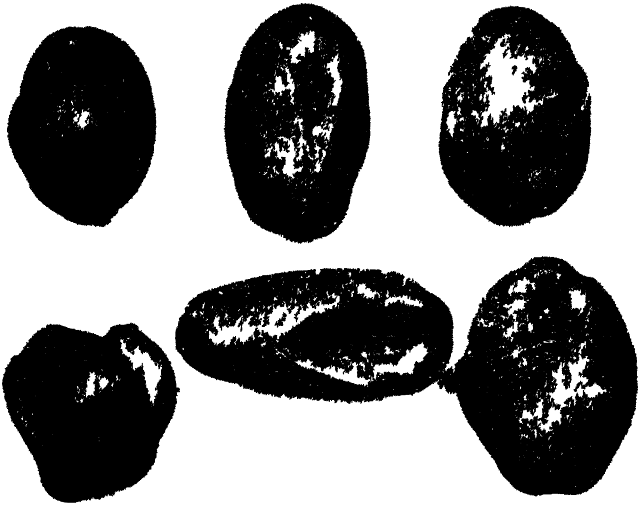


Fig 52.—*Unnamed seedling* (*Red variety* × *Myatt's Kidney*) *of undesirable form*

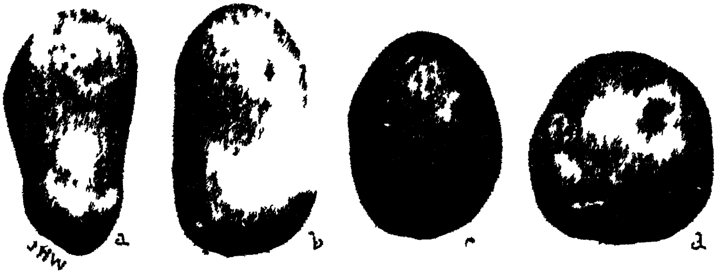


Fig. 53.—a, *Maincrop*, d, *Red variety*, b, c, *progeny*

In this series we find the ratio of the coloured tubers to the white is 3·5 : 1. As already mentioned, the numbers dealt with are too small to give reliable averages; but once more we find the appearance of purple tubers (fig. 53, c), although neither parent produces such, and, further, the plants with white tubers are distinctly in the minority.

The flowers of 7 of the varieties were white, 2 were rose with white, and 6 purple with white. Three do not seem to have produced flowers. It is of interest to note again that, although both parents had coloured flowers, a large proportion of the seedlings had white flowers. Only 3 with white flowers had also white tubers. None with deep purple flowers had white tubers.

As in the other series, the colour of the flesh varied from lemon to white, and in only one case do the records show that in one and the same seedling were the tubers, the flowers, and the flesh all white.

The most interesting of this series has received the name Rector (fig. 54). It is a red or russet round maincrop, or somewhat late variety, of medium size, with a splendid constitution and of the highest quality. The shaws are 3 feet high. The tubers are singularly uniform in size, and are quite disease-resistant. Tested last year alongside of Up-to-Date in a considerable area, it was found to be equal to that standard variety as a cropper.

Fig. 54.—*Rector Red variety Maincrop*

Flower-Colour and Stamina.

The opinion is sometimes expressed that white-flowered varieties of potatoes are not so robust as coloured-flowered ones. It seems natural to associate vigour with the purple and red tints of the skin of the tubers, the darkening of the shade of the stems and foliage, and the colouring of the flowers. The colours in question are present in the cell-sap. Those in the tubers, stems, and leaves are of no more service to the plant, as far as we know, than the purple in the leaves of the purple beech is of benefit to that tree. It may readily be a disadvantage. Again, with respect to the colour of the flower, the white hawthorn is to all appearance as vigorous as the less familiar red variety. No end of instances of this kind could be cited.

It would, I think, be difficult to show that flower-colour is of any importance as a factor in the breeding of improved varieties of potatoes. As far as the present observations go, so many of the varieties which bear white flowers also produce white (colourless) tubers that a presumption might well be entertained in favour of using white-flowered varieties as parents in order to secure such tubers. On the other hand, it is fairly certain that many seedlings with white tubers will appear in crosses with purple- and red-flowered parents. It is wiser to direct attention to the colour of the tubers than to that of the petals.

Seed and Tuber.

The problem of raising new varieties of potatoes is quite different from that of new cereals. In the latter the stock is perpetuated by seed. The seed is a structure containing a new individual in the form of an embryo derived from a fertilised egg-cell. A potato tuber is only a portion severed from an individual. It is a simple vegetative body, as devoid of any inherent power of variation as a cabbage-stem or a carrot. The question of fixing its characters—that bugbear of the breeder's operations—is quite eliminated in the potato. The tubers borne by the seedling are to be regarded as a finished product.

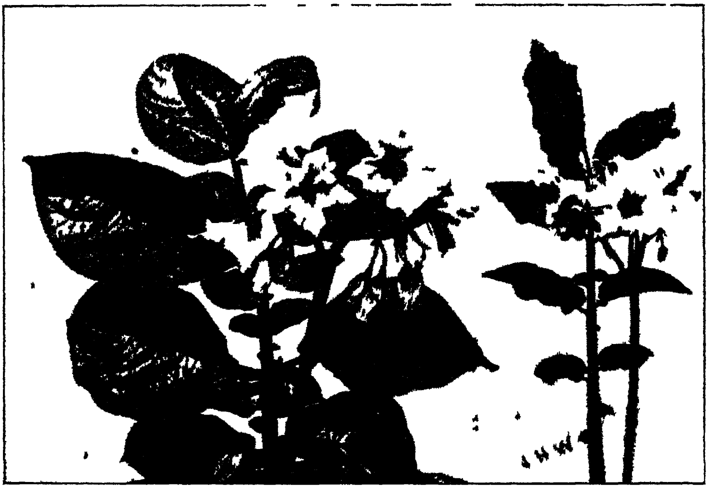


Fig 55 —*On the left, leaf and flower of* Solanum tuberosum var ;
on the right, S. Commersonii

In how far continuous selection of the best of the tubers can influence the stock is a question not easily answered. It has been my own practice to choose the best-shaped tubers for a few generations, and to refrain from cutting them up; but it is quite open to question whether the unshapely ones need have been destroyed. It is obviously a case of erring on the safe side. If any improvement were to take place in the variety as the outcome of constant selection of the tubers, it would only be done by a process which cannot be distinguished from sporting. As we already know, sporting is not yet reducible to scientific rules, and is as liable to go in a backward as in a forward direction.

Solanum Commersonii × *S. tuberosum* var.

The crossing of varieties of the potato (*Solanum tuberosum*) with other tuber-bearing species of *Solanum* is an attractive field of experiment. The only other species I have used is *Solanum Commersonii*, a native of Uruguay. It is a plant of much smaller growth than our ordinary potatoes, attaining with me the height of 1 foot or little more. The stems are thin and the leaves narrow. The tubers of my plant are white and rather unshapely; the flowers are small and white (fig. 55). This species is said to like damp ground. Both in the past and previous summers I succeeded in getting a few berries on *S. Commersonii* by crossing with pollen of one or two varieties of potato. The berries swelled and looked quite plump and healthy. They were heart-shaped, green, with numerous white dots in the skin (fig. 56), and therefore quite distinct from the spherical fruits of the common potato. Although apparently quite normal in shape, in no case was any seed found in them, the compartments being hollow and empty.

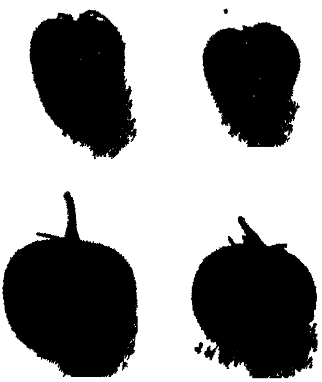


Fig. 56 —*Fruits of* Solanum Commersonii *in the top row*; S. tuberosum var. *in the bottom row*.

I have pleasure in acknowledging assistance from the Carnegie Trust for the Universities of Scotland in carrying out the observations recorded in this paper.

CHEAP COTTAGES.

At the present time special interest attaches to the question of providing cheap buildings suited for small holdings. Where the extent of the holding is small the dwelling-house will be the costliest item: as to the actual sums which would have to be set apart for reasonably comfortable cottages there has been a good deal of discussion and some difference of opinion.

Mr R. C. Munro Ferguson of Raith and Novar, M.P., has taken much interest in this question, and, with the view of throwing light upon it, he lately had a cottage erected at Raith as a specimen of the sort of house that could be constructed at a cost of £150. Mr Munro Ferguson has been good enough to comply with our request for particulars regarding the construction of this cottage.

The external appearance of the cottage is represented in fig. 57, the ground-plan in fig. 58, and a section at A B, fig. 59.

COST.

The cottage was erected at a cost of £150, but this did not include any fee to the estate architect nor profit to the builder. Neither was any sum embraced originally for sewer drain or water-supply, only an earth-closet being included in the £150. What the cost of sewer drain or water-supply may be for any house cannot be determined till the site is fixed upon. In this case the site was suitable for a sewer system and gravitation water-supply, and both were provided, as well as a bath with hot and cold water, and flushing w.-c. These additions, which caused no structural alterations on the cottage, brought the total cost up to £170.

ACCOMMODATION.

The cottage, it will be seen, comprises a living-room 14 feet by 12 feet, two moderately sized bedrooms—the one 13 feet 2 inches by 11 feet, and the other 11 feet square,—with kitchen 14 feet 1 inch by 10 feet, bed-closet, larder, scullery, bathroom, and coal-house. The front door is sheltered by a porch. The walls are formed of brick and wood, and the roof of wood, plaster, and tiles.

The cottage not only looks well but is most comfortable, and has been keenly sought after both by buyers and tenants.

For the convenience of those who may purpose erecting similar houses, it may be stated that a lithographed working

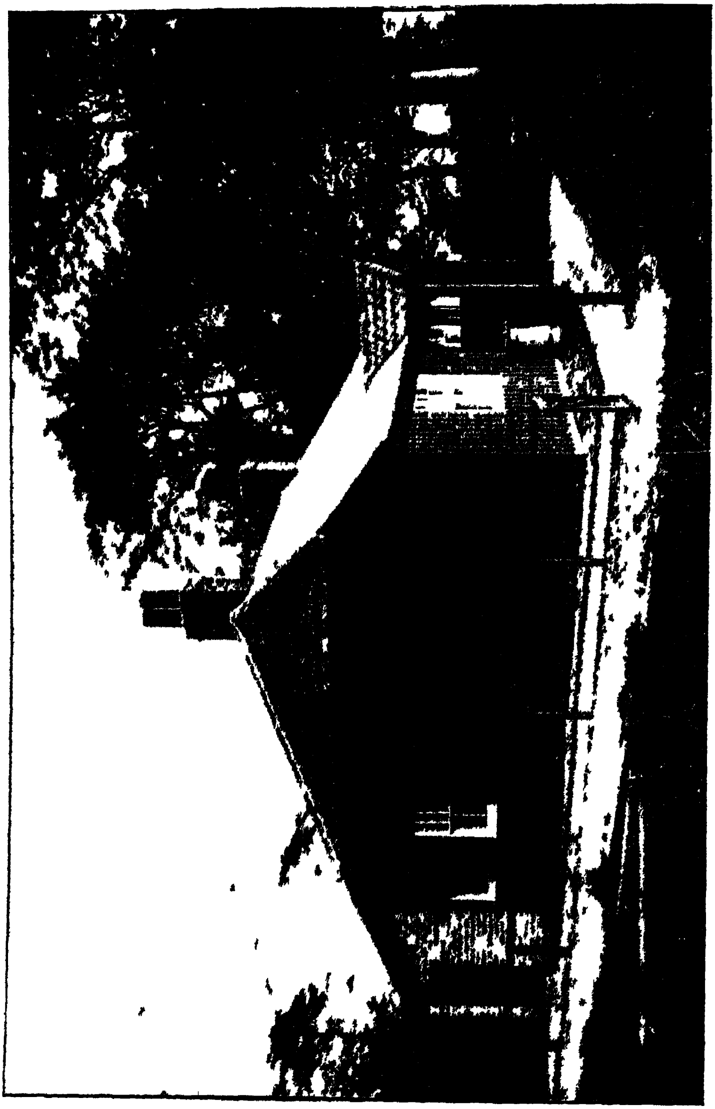


Fig Col Ra for £

plan of this cottage, with detached schedules, priced, and specification, can be had for a fee of a guinea from Mr Andrew Graham, clerk of works, Raith Estate, Kirkcaldy.

SPECIFICATION.

The following is the specification for this cottage:—

Foundations are all of concrete 18″ × 8″, continued with 14″ brick wall 12″ above ground level with 9″ × 6″ galvanised ventilators, set in for ventilating underneath floors.

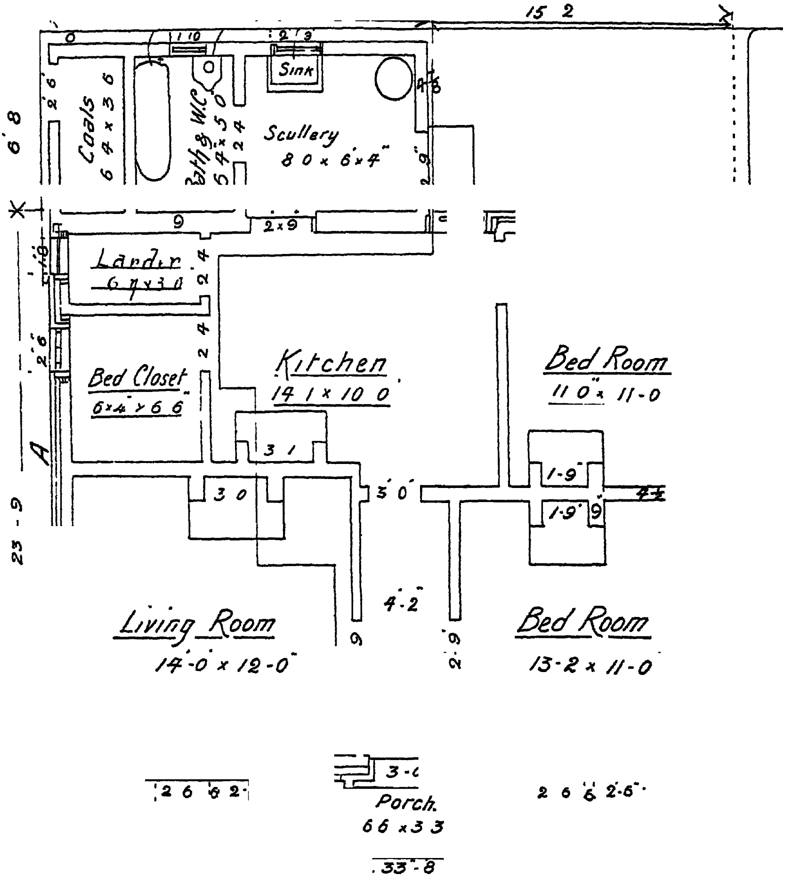


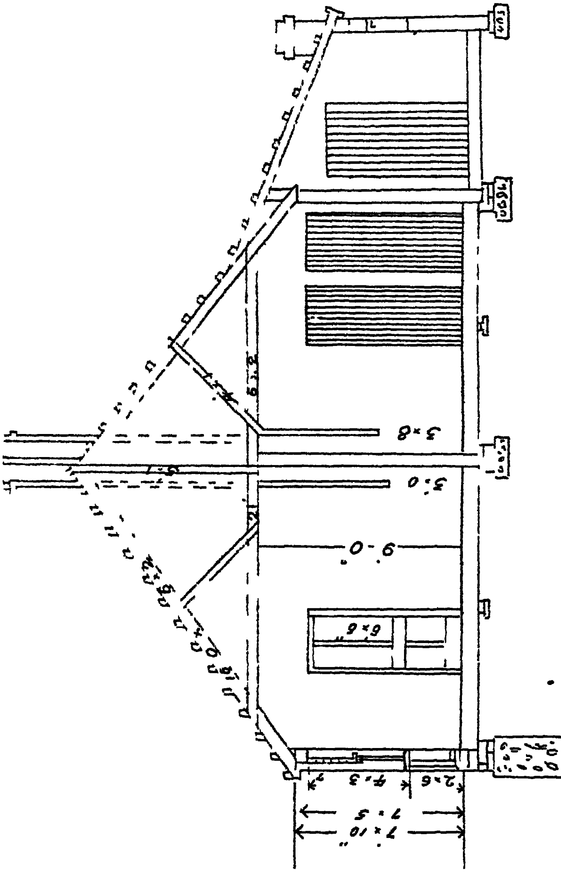
Fig. 58.—*Ground-Plan.*

Walls are composed of brick and wood—single brick inside and 6″ × 1⅛″ red wood boarding outside, having 1½″ between wood and brick of air space. The outside boarding and overlaps for joints are coated with carbolenium outside and inside before fixing up, and again coated outside at completion.

The brickwork of outside wall is built in wood frame. The posts at corners and window openings are 4½″ × 4½″ P.P. let into concrete blocks. As the brick building proceeds the bond wood, 6″ × 3″ red wood, is laid on brick, checked on posts at regular intervals and well nailed for fixing outside boarding. The bond wood and posts are grooved on both sides to admit rivet of mortar.

Partitions.—All 4½" brick.

Roofing.—Foreign white wood rafters and tie beams 6"×2", tile lath 1¼"×1¼", and filled in between with plaster lath, and one coat plaster, and covered with double roman tiles.



Section showing Posts &c.

Joisting, 6"× 2" laid on 4"×1" wall-plate, and covered with 1⅛" tongued and grooved flooring.

Windows cased and 2' sashes, double hung.

Doors.—Front rooms and lobby 1½" Y.P., framed and panelled; back rooms ⅞" plain deal doors.

Lathing.—Ceilings lathed with best Baltic lath.

Plasterer work.—Three coat best plaster on all ceilings and brickwork, scullery, and bathroom, and, where walls are not covered with wood, they are plastered with ½" thick cement plaster.

Pointer work.—All doors and windows and inside woodwork painted three coats oil paint, and all walls papered.

Grates.—Parlour — tiled grate and hearth; bedrooms — combination grates with metal mantelshelf, value £1, 5s.; kitchen—close-range, B and O boiler self-fed by water.

Drainage.—Sewer drain 4″ S. and F. pipes jointed with rope yarn and cement, and smoke tested, having ventilation shaft over roof.

Rhones.—4½″ × 4″ C. I. O. G. moulded rhones, fitted on to 6″ projecting eaves with the necessary water-conductors let into traps.

THE ROYAL AGRICULTURAL COLLEGE, BERLIN.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

IN Scotland agricultural education has recently made great strides, and much attention is being paid to it. It is no longer looked upon by the practical man as the fad of a few enthusiasts, but as something from which he, or his sons, may gain advantage, and which should be encouraged and developed in every reasonable way. While it would be unwise slavishly to imitate what is being done in other countries under conditions quite different from ours, it is useful to know what has been done and is being done for agricultural education elsewhere. There is, even in the agricultural education of countries where the requirements are very dissimilar to those which we have to meet, much which is not only of interest to us, but much from which we may learn something which may be of use to us in our future development.

Last year a very interesting volume was presented to the Highland and Agricultural Society in which a fully illustrated account is given of the history, work, and present position of the Royal Agricultural High School, or College, of Berlin. In Germany the term high school is applied to technical institutions which we would call colleges in this country. I have therefore preferred to translate the word *Hochschule* as college, which better conveys to British ears the idea of the kind of institution which it connotes. This handsome volume was published by the teaching staff of the College under the editorship of Professor Wittmach, to celebrate the 25th anniversary of the foundation of the College. In it a most interesting light is cast on the present state of agricultural education in Germany, and on the way in which agricultural education is viewed by the official classes and by the agricultural public in that country.

In Britain it is only within the last few years that we have attempted to develop a general system of agricultural educa-

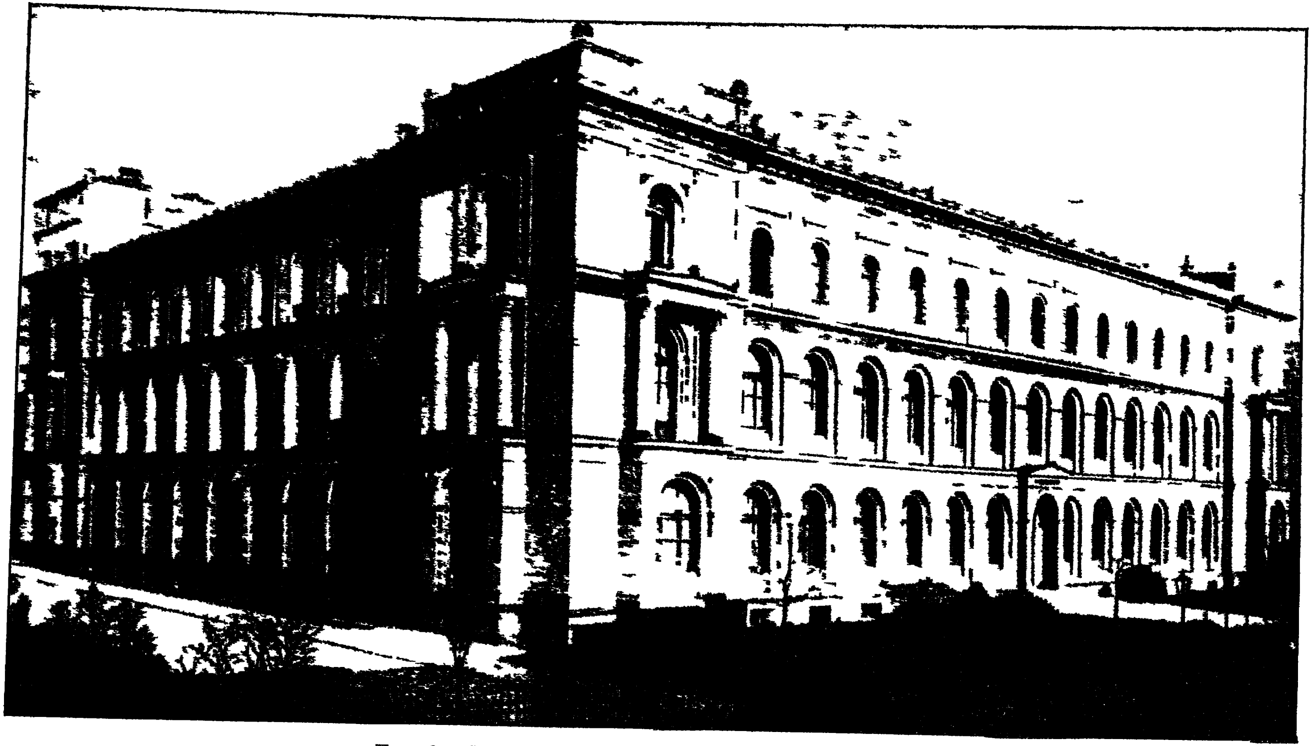


Fig 60 —*Royal Agricultural College, Berlin—Main Building*

tion: in Germany such a system has been in existence for many years, and they have had more than a generation's experience of its working. Like the system which we are now evolving, it grew up gradually, and did not spring into life according to a uniformly ordered and logically worked-out paper scheme. The various institutions which form parts of their system had various origins, and grew up under various influences, and to the present day they retain their separate individualities and have different organisations and characteristics. No attempt has been made to bring them all to one uniform level as to constitution and methods of work. We find, for instance, that many of the higher agricultural institutions in Germany are departments of universities, while others, among which are some of those with the longest and most distinguished history, are independent colleges. These independent colleges, again, are generally more or less closely affiliated to, or connected with, universities.

In Germany, as in this country, opinion is somewhat divided on the question of whether agricultural, and other higher technical, education should be provided for in separate institutions or in technical departments in the universities.

Of the eight higher institutions for agricultural education in Prussia, five are departments of universities and three are independent agricultural colleges. Among the university departments is included the great agricultural school at Halle, while among the independent colleges are the equally great and flourishing schools of Berlin and Bonn-Poppelsdorf.

In the volume under consideration the question of whether an agricultural college should be a department of a university or an independent college is discussed at an early stage. The authors wisely leave the question an open one, though they state that it is very unlikely that any more separate agricultural colleges will be founded, and that in future any new higher agricultural institutions which may be founded will be departments of already existing universities or technical colleges. Their one conclusion, which applies to this country as well as to Germany, is that, after all, the success of an institution depends far less upon the form than upon the spirit in which it is conducted and which pervades its staff.

It is to be remembered that in Germany all teaching institutions, higher as well as lower, and universities as well as technical and agricultural colleges, are supported and controlled by the State. Though, as in this country, there is a certain dignity and prestige attached to a university, the professors and other teachers in an agricultural or other technical college are given a rank, position, and emolument similar to that which they would enjoy if they were teachers in a university department.

Early History.

The earliest chair of agriculture in a university was founded in 1727 by Frederick William I. of Prussia at the university of Halle. From that year onwards attempts were made from time to time to teach agriculture at various German, including Austrian, universities. The real organised movement in favour of a system of agricultural education can hardly be said to have existed until the beginning of the nineteenth century. Albrecht Thaer, who was a court physician to George III., in his capacity as Elector of Hanover, and who had studied and written extensively upon English Agriculture, is generally looked upon as the father of scientific agriculture and of agricultural education in Germany. He was the first professor of agriculture in Berlin. The University of Berlin was founded in 1810, and Thaer was appointed Professor of Agriculture at the foundation. English agriculture, which was then looked up to as the foremost in the world, and as the model for other countries, had thus a great influence on German agricultural education in its early days.

After the days of Thaer an agricultural school was carried on in Berlin with varying fortunes. A long struggle took place over the question of whether it was to be included in the university as a department or erected into a separate and independent college. In this struggle the great chemist Liebig, who probably did more to advance agricultural chemistry than any other individual, and whose influence was in his day unequalled. threw all the weight of his authority into the scale in favour of the inclusion of agricultural teaching in the universities. In a famous speech on "Science and Agriculture" in 1861, he said that "the separation of agricultural academies from the centres of general culture implied cutting them off from intellectual advance, and the want of development and barrenness of result which distinguishes these academies is due to the narrow outlook of their technical work and their one-sided scientific teaching." This view represents a side of the question for which there is much to be said, which should not be lost sight of in our development of agricultural schools in Britain.

Twenty years later, however, in 1881, the Royal Agricultural College was founded in Berlin as an institution independent of the university though closely connected with it. Its success has been phenomenal. The number of students has increased so rapidly that if we have any similar experience in Scotland our agricultural colleges will soon become equal to the greatest institutions for higher education in the country.

Number of Students in Attendance.

In the first winter session, 1881-2, there were 87 regular agricultural students—that is, students taking an organised agricultural course—at the Berlin College. In addition to these there were 121 extraordinary students—that is, students of other institutions, such as the University, the Veterinary College, &c.—who attended one or two classes only at the Agricultural College. In all there were 208 students. Soon after its formation the College began to increase its classes and the scope of its teaching, and found it necessary to found two new sections or faculties. It therefore now consists of three sections or faculties, each with organised courses of instruction: (1) the Agricultural section; (2) the section for Surveying and Agricultural Engineering; and (3) the section for Technical Agricultural Industries. During last winter session, 1905-6, the numbers of students were—Ordinary students, Agricultural section, 337; Surveying and Agricultural Engineering section, 359; Agricultural Industries section, 162,—total regular students, 893. Extraordinary students, 354. Grand total, all students, 1247.

Though these numbers are so great that they seem almost impossible of attainment to us in our present state of development, they are not more remarkable than the numbers in attendance at some of the provincial schools. Thus in 1905 there were 501 students at the Agricultural College of Bonn-Poppelsdorf; and at the agricultural department of the University of Halle, a city of a little over 100,000 inhabitants, there were in the same year 547 students.

We have in Scotland a people distinguished, like the Germans, for their love of learning, and for their keen appreciation of all that is practical and makes for material success. Our agricultural colleges should be able to achieve as great a success as those of Germany if they can gain the same measure of public confidence and respect by equipping themselves as thoroughly, and producing as complete and inspiring a system of education as has been produced there.

Age and previous Education of the Students.

The students of the German agricultural colleges are as old as, or older than, those in attendance at similar institutions here. One of the questions discussed very near the beginning of the volume under review is of much interest to us also. It is the question whether the agricultural student should come straight from school to college, or have a year or two of practical experience first. Though at one time opinion was very divided on this point, it is now practically unanimous in Germany in favour of students having a year or two of practical work before coming to college. In Germany it is now held as a matter of course that every agricultural student has some practical experience. This course has many advantages. The student's mind is more mature and more fitted to benefit by the college instruction. His practical experience helps him better to understand and apply the theory. It is better to get practical training on an ordinary farm working for profit than on a college farm, which should be used rather as an experiment station.

This is a question which requires to be very carefully considered in Britain. Many of our students are too young, and would gain much greater advantage from the courses were their minds more mature and had they a better appreciation of the practical difficulties of farming. The average age of the Berlin agricultural students at entry is about 21 years, and they have had on the average two or three years' farm experience. In our case some difficulty might arise over entrance examinations. The longer a student is away from school the more difficult it is for him to pass entrance examinations in school subjects. In a well-organised system, however, this difficulty would readily be got over.

Entrance Examinations.

In Germany there are no entrance examinations for the universities and other higher educational institutions, but a student, to be admissible to any university or college, must have passed a certain standard at school. He must take a leaving certificate of a certain standard and at a certain class of school. This ensures that the student will come to college with a sufficient preliminary training to fit him to take advantage of the college classes, and renders entrance examination unnecessary. We have in Scotland already a similar system, but it is only partial. In Germany it is universal, and entrance examinations at college are quite done away with. It is to be remembered that in Germany all students, agricultural as well as others, remain longer at school than is the rule here, and all have attended a secondary school before coming to college.

Sessions and Courses of Study.

There are two sessions, a summer and a winter session, in the academic year at the agricultural colleges and other higher teaching institutions in Germany as in Scotland. The organised courses at the agricultural colleges are arranged so as to include winter and summer sessions equally. Still, as with us, there is a difficulty in getting agricultural students to attend during summer. The numbers are always much smaller during the summer than during the winter session, for many students return to practical work in summer.

There are two organised courses of study in the agricultural section of the Berlin College: (1) a two-years' course, consisting of two winter and two summer sessions; and (2) a three-years' course, consisting of three winter and three summer sessions. The two-years' course is for farmers and those who intend to return to practical agricultural pursuits; while the three-years' course is intended for teachers and specialists.

All the experience in Germany goes to show that a two-years' course of four sessions—two winter and two summer—is far preferable to a three-years' course consisting entirely of winter sessions. There is much work which can be properly done only in summer. Summer is the season when plant growth and animal life of all kinds are active. There are whole subjects, such as botany, entomology, and large parts of agriculture, which must be taught almost entirely from dead specimens and diagrams unless they can be taught in summer. Therefore the German colleges make every effort to induce their students to attend in summer as well as in winter.

It is of interest to us in Scotland, where we are at present trying to work out what is the best course for students of different kinds, to find that a two years' course is considered quite long enough for the ordinary agricultural student. Their experience has shown that it is difficult to persuade ordinary agricultural students who intend to go back to farming to attend for a full two years' course. Most of them will attend for two winters, but it is difficult to get them to attend in the summer sessions as well, and they consider, apparently, that it would be useless to attempt to raise the course for such students to three years.

So also only a small proportion of such students complete their examinations for what would correspond to a diploma with us. A great many merely want the information and do not care to trouble with diploma examinations. Every teacher in our colleges here has had somewhat similar experience. A large proportion of our agricultural students in Scotland also are not anxious to work for a diploma examination, and unless they intend to make application for posts where a diploma is likely to be of service to them, readily take the view that a farmer has no use for a diploma or degree.

Agricultural Diplomas.

On the other hand, in Germany, as here, the considerable class of students who intend to become agricultural teachers or specialists are ready to take a three years' course, and to present themselves for examinations for a diploma or degree. So there is there, as here, a class of students who intend to apply for posts in practical agriculture, and these take the full two years' course and wish a diploma at the end of it. In Germany there are a great many appointments open to such men. There are in many districts in that country great arable farms, or rather estates, often of thousands of acres in extent, which are farmed by the proprietors, with the help of skilled managers and inspectors. These posts are generally given to those who have both practical experience and a college training.

In Scotland there has recently been some discussion over the titles given to students who take agricultural diplomas, and very properly much objection has been taken to the unnecessary multiplication of such titles. In Germany the difficulty is the other way. Although they have had agricultural colleges for many years, training large numbers of students and subjecting them to qualifying examinations at the end of their courses, they have not yet found a suitable and distinctive academic title to give such students. This difficulty apparently extends beyond Germany and is felt in the neighbouring countries. The matter was therefore discussed at the last International Agricultural Education Congress at Liége in 1905, and two resolutions were passed. The first resolution declares that all students of higher agricultural teaching institutions who have passed their final examinations shall receive a distinguishing academic title. The second resolution refers the consideration of a uniform title to be granted to such students to the next Congress.

Training of Teachers.

In order to qualify as teachers of agricultural subjects, students have to attend a full three years' course of six sessions and to pass the necessary examinations. They must also have at least two full years of practical farm experience. Then after all this they must successfully serve a year as a teacher in one of the ordinary agricultural schools. In addition to the agricultural colleges and agricultural departments of universities, there are a very large number of middle and lower agricultural schools dotted over the whole country. After he has passed his college examinations and his two years' farm training, every person who intends to qualify as an agricultural teacher must teach for a year with success in one of these schools. It is only after all this that he gets his certificate constituting him a fully qualified agricultural teacher, fit to be appointed to a post in one of the many agricultural schools or colleges of the country. In no part of Britain have we yet raised our qualifications for agricultural teachers to such an all-round high standard.

It is particularly noticeable that the practical farm training required is longer than is insisted upon in this country. For all classes of agricultural students in Germany practical farm experience is insisted upon. There are many in this country who think that students of our agricultural colleges should attend and work upon a college farm, simultaneously with their attendance at classes at the college. Those who hold this opinion would have the professors and lecturers of our colleges teach ordinary practical farm work and exercise the students in it. They would have the students learn farming at the college as well as sciences connected with agriculture. The German system is quite opposed to this idea. It insists that all agricultural students shall have practical farm experience, but considers it best that they should obtain it on ordinary working commercial farms. It provides its colleges with farms and gardens, but they are to be run as experimental stations and demonstration stations, and not as commercial farms. In fact, they bear the same relationship to the commercial farm that the engineering laboratory does to the engineering workshop. In this system the college is very thoroughly equipped with everything for teaching and illustrating every branch of knowledge which bears on agricultural practice, but its resources are all applied to imparting knowledge and a mental training to the student, and not to exercising him in farm practice.

Department of Surveying and Agricultural Engineering.

Soon after the Berlin College was founded it was discovered that there was a considerable number of students who did not intend to become farmers or agricultural teachers, but who wished to become surveyors, estate agents, agricultural engineers, and suchlike. A special section was therefore instituted for them. The name of this section or faculty may be freely translated as that of Surveying and Agricultural Engineering. The students of this section require to learn a certain amount of ordinary agricultural science, but they also require a great deal of special instruction—in mathematics, engineering, architecture, and building construction, surveying, construction and upkeep of roads, bridges, waterways, &c., agricultural law, and political science — which is not required for the ordinary agricultural student. Therefore, in 1883, special courses were instituted and a special curriculum was laid down for such students. The experiment has been fully justified. In 1883-4 they had a class of 28 students; last winter session the numbers in this section had increased to 359, and in some sessions the number has been considerably over 400.

In Berlin the students of this department, before they come to the classes, must have had at least one year's practical experience. They have then to go through courses of study, which are divided into the following sections: 1. Mathematics and Physics; 2. Surveying and Land Measuring; 3. Engineering and Building Construction, including building materials and construction of roads, bridges, and waterways; 4. Law and Political Science; 5. Agricultural Sciences, including Forestry.

Department of Agricultural Industries.

A third class of students for which the Berlin College makes provision consists of those who wish to study Agricultural Industries. In Germany and other countries a number of industries are classed as agricultural which are scarcely regarded in that light here. We regard the manure, seed, and implement industries as agricultural, but do not class brewing, distilling, sugar manufacture, vinegar manufacture, and starch manufacture as agricultural industries. The agricultural industries for which the Berlin College makes special provision are: 1. Fermentation industries—*i.e.*, brewing, yeast manufacture, vinegar manufacture, and spirit manufacture; 2. Starch manufacture; and 3. Beet sugar manufacture. All these are industries directly founded upon agriculture and closely related to it; and the associations of manufacturers engaged in these industries co-operated with the Agricultural College in founding organised courses in the college bearing on these industries. In this country, so far as courses for such industries exist at all, they are provided in institutions other than agricultural. The institution of these courses in Berlin has been fully justified by the number of students who have taken advantage of them.

The Staff of the College.

In order to provide for the instruction and accommodation of all these different classes of students a very extensive staff and equipment are required. All the German agricultural colleges and university departments are staffed and equipped in a way we have not yet approached. There are three classes of teachers in the Berlin School, and the same is the case in most other higher agricultural institutions. First, there is the inner circle or, as it is termed in German, *college*, of teachers, the professoriate, a kind of senatus which has control of the courses of study and discipline. This consists of seventeen State-recognised professors and the director of the Sugar Industry Institute. Second, there are the paid lecturers, nineteen in number. These are largely professors or specialists of other institutions, who are paid a salary to give a course in the Agricultural College. For instance, all the veterinary teaching is given by lecturers who are professors in the Royal Berlin Veterinary College. Third, there are unsalaried lecturers (*privat docenten*), nine in number. These are teachers who are provided with accommodation for lecturing, and are allowed to charge students certain fees for attendance at their classes, but are paid no salary. They have to be approved by the inner college (professoriate), and have to comply with certain statutory qualifications, among which is that, in addition to university study and a doctor degree, they must have had "at least two years' practical experience of agricultural work." Some of these also are professors or specialists in other institutions in Berlin, and they include lecturers on tropical agriculture and on meteorology. Altogether, there is thus in the Berlin College a lecturing staff consisting of forty-five, and there is a large number of assistants in addition.

Range of Study.

The range covered is not only wider than with us, but the subjects are more subdivided and specialised. Thus there is no professor of agriculture. He is divided up into various sections. There are professors of animal industry, of vegetable industry and soils, and of agricultural machinery, two professors of surveying, and a professor of an untranslatable subject, which may be roughly rendered as agricultural industrial science. There are in chemistry a professor of pure chemistry, a professor of technical chemistry, and a professor in charge of the agricultural chemical research station, who gives a course on agricultural research, but whose principal work is research and the control of the analyses of fertilisers and feeding-stuffs, &c., from the province of Brandenburg, which the college is supposed to serve. This professor has no fewer than eleven skilled assistants engaged in the work of the research station and in the analytical control work. There are also professors of mathematics, physics, zoology, geology and mineralogy, botany, and animal physiology. Among the lecturers are five in veterinary subjects; five specialists from the Ministry of Agriculture, who lecture on vegetable pathology, moor culture, agricultural engineering, construction of roads, bridges, and waterways, and agricultural law respectively. There are other lecturers for such subjects as forestry, agricultural entomology, fish culture, agricultural co-operation, agricultural history, and different branches of technical agricultural chemistry.

Though with all these teachers the curriculum is wide, it is not complete, and in certain branches other German agricultural schools are much more completely staffed. The different German agricultural colleges, like our own, have to a certain extent developed in different directions and specialised in different directions. Still, it is surprising to find that, in a college which provides lecturers on moor culture, fish culture, and meteorology, there are no teachers of any branch of science connected directly with dairying. Some of the German schools have developed specially on this side, as the West of Scotland College is very properly doing in our own country. There is a very large dairy industry around a great city like Berlin, and one might have expected to find in so extensive a staff a specialist on, for instance, the highly specialised subject of dairy bacteriology. Even in Berlin they have not reached the limits of growth and extension.

Buildings and Equipment.

The buildings and equipment are nearly all provided by the State. In 1876, when it was decided to found the college, the House of Representatives voted nearly £130,000 for building and equipment. With this the central building of the college, which was opened in 1881, was provided. Already in 1883 they commenced to enlarge their buildings, and further capital sums were voted. When it was decided to found the Department for Fermentation Industries, they provided for it in a new building quite apart from the central buildings and some distance away. For this the State voted over £50,000, and other sums were provided by the industries interested. So all through the history of the college there have been every few years extensions and additions, mainly provided for by the State. Between 1900 and 1906 the State has spent about £75,000 on the acquisition of land alone for the extension of the central buildings.

The main buildings (fig. 60) are in a central position alongside the Natural History Museum and the Royal Academy of Mines, not far from the Royal Veterinary College and the University, and near to some of the principal railway stations. The institutes for fermentation industries, for sugar industry, and for cereal industries are situated some distance away in three separate buildings which are alongside one another. The experimental fields and botanic gardens are situated a few miles out of Berlin, but can easily and rapidly be reached by rail.

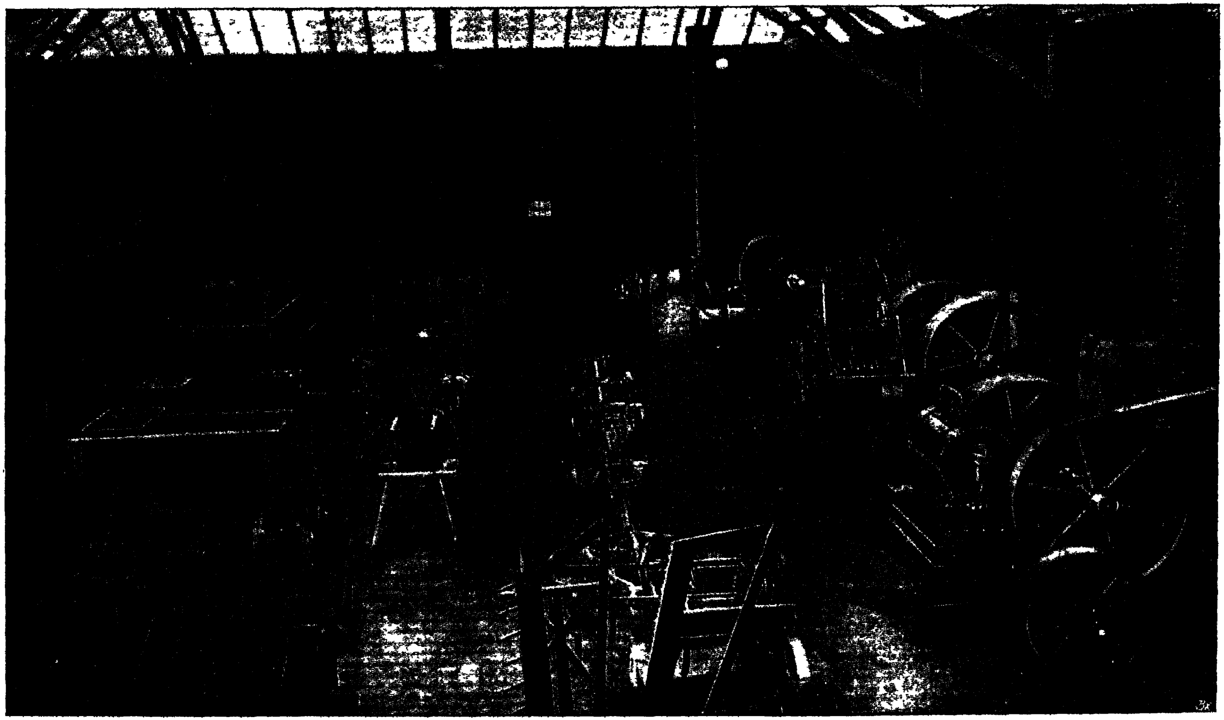


Fig. 61 —*Machinery Hall, Royal Agricultural College, Berlin.*

The buildings are of such extent as to convey the idea rather of a university or university college than of merely a college of agriculture. For instance, in the department for agricultural machinery there is in the central buildings a large museum for machines and models. This museum contains 1494 exhibits; but only the models and lighter machines and implements are exhibited here. It was found that the vibration caused by the heavier machines was injurious to the building and troublesome to the other departments, so in one of the additions made to the central buildings a new machinery hall, having a floor space of over 700 square yards, was built (fig. 61). It was made suitable for heavy machines in motion, and in it all heavy machines, including prime movers like farm steam-engines, gas- and oil-engines, are kept. These engines are all fitted up and attached so that they can be worked and their construction and working illustrated practically to the students.

Machinery Testing and Research Station.

In addition to this, a new testing and research station for agricultural machinery and new technical machinery laboratories were opened in 1905, and constitute the latest addition to the equipment of the college. This department is meant to serve two purposes. It is to serve as a place where farmers and agricultural societies of the Province of Brandenburg can obtain advice and help with regard to machines; and it is, in the second place, to serve as a department of the college. It is under the charge of a professor of the college, but occupies buildings of its own apart from the college. It contains a great hall, over 50 yards long and 40 broad, for the exhibition of machinery. This department was founded at the instance of the Chamber of Agriculture of the Province of Brandenburg.

The other departments are all conceived and furnished on a similar scale, with laboratories, museums, workshops, and lecture-rooms of the most complete and thoroughly equipped kind. There are, for instance, several different sets of chemical laboratories set apart for different purposes.

General Chemical Department.

There is, first, the general chemical department, which occupies a set of rooms in one of the extensions added to the main building. In this general chemistry, theoretical and practical, is taught, and special courses in agricultural and technical chemistry are given. In all, seven separate courses are specified which are given in this department. Provision is also made for carrying on chemical research in this laboratory.

Agricultural Chemical Research.

In the second place, there is the Agricultural Chemical Research Station for the Province of Brandenburg, which is now included in the college, and is provided with laboratories in it. This research station was originally founded in 1857, and continued to be an independent institution till quite recently, when it was joined on to the Agricultural College, and its director made a professor in the college. The work of this department is not confined to research in agricultural chemistry. In addition, it performs the official analyses of manures, feeding-stuffs, soils, crops, dairy products, and other agricultural substances, as well as seed-testing and certain classes of bacteriological investigations, for the Province of Brandenburg. This is what is called its work as a "control station." In this section is included all the work which in this country is performed by the official analysts under the Fertilisers and Feeding-Stuffs Act, and, in addition, a great deal of work, such as seed-testing, which is not performed at all by any publicly recognised official here. In the year 1905 over 6000 samples were analysed or tested under this section.

There are three chiefs of departments—the analytical, the botanical, and the bacteriological—and eight assistants, who work under the professor mainly at this control work. These laboratories are also used for the instruction and exercise of students in methods of analysis and control of manures, feeding-stuffs, seeds, soils, &c. They are fitted in the most modern fashion, and have everywhere electric power for driving mills, sieves, stirring and shaking apparatus, and for heating fat-extractors, &c. On the experimental fields connected with this department field experiments both for research and demonstration purposes are carried out. Researches into plant cultivation, soil bacteriology, and similar subjects are also carried on.

In addition to the above laboratories, chemical laboratories are also provided in the separate buildings or institutes for sugar and fermentation industries, specially fitted for the technical chemical work which is carried on in connection with these industries. In connection with these, also, another experimental research field and a pot experiment station are provided.

Excursions to Country.

In the surveying faculty special areas are provided in order that practical field-work may be carried out. A special grant is also made to this section, so that students may be taken to the country for practical exercises, and to visit and inspect various agricultural engineering works.

It is stated that the various professors are expected to keep as closely in touch as possible with practice and with practical matters in connection with their various subjects. For this purpose they are encouraged to make expeditions with selected parties of their students to the most various parts of the empire for purposes of study. In some cases such expeditions have even been made at the expense of the State to places of interest outside the German Empire. They also visit with their students the shows of the great German agricultural societies and the leading experimental stations.

It is a pity that something similar cannot be done in this country. No better lesson could be given to a senior class in agricultural chemistry, for instance, than a visit to such experimental stations as Rothamsted and Woburn. The Irish department of agriculture are following the Continental example in this matter, and send annually a selected party of the students at their highest agricultural classes in Dublin to expand their minds and widen their outlook by visiting some places of agricultural interest in England or the Continent.

Members of the staff of the Berlin College are also sent from time to time by the Ministry of Agriculture to visit exhibitions and to take part in congresses in various parts of the world. Thus parties of them visited in their official capacity the international expositions in Chicago, Paris, Rome, St Louis, and other places. It is greatly to be desired that our colleges would so far follow this example as to, at least, give facilities to members of their staffs to visit the great congresses on agricultural education and other agricultural matters which from time to time take place in different parts of the world. At most of these congresses British agricultural teachers are entirely unrepresented, as only an occasional individual has either the time or the means for attending them. The American colleges, like the German, constantly send their teachers to expand and refresh their minds and increase their knowledge by visiting congresses, experiment stations, colleges, and other places of agricultural interest in the most distant parts of the world. If the State cannot do this for us in Britain as it does in Germany, we need the help of wealthy benefactors like those who are doing so much to promote in every way the higher education of the United States and Canada.

Short Courses for Practical Farmers.

The Berlin College has for many years past held annually during the winter short courses for practical farmers. These have been largely attended. In most years since 1893 the class has numbered over 100. These numbers, however, are not beyond what we have seen reached in Scotland. In this connection it is to be remembered that the German colleges do not attempt to carry on so diverse and widely-scattered a work as our colleges must do in our present state of development. Much of what has at present to be attempted by the staffs of our agricultural colleges is in Germany more thoroughly accomplished by other agencies. Thus in Germany they have a system of lower and intermediate agricultural schools which lead up to the agricultural colleges. They have also a system of winter agricultural schools, and there are a great many series of lectures given throughout the country by expert lecturers, who act under the auspices of such agencies as the chambers of agriculture. These agencies take the place of the extension lecturing which is at present carried out by the colleges in Scotland, and leave the staffs of the colleges to devote themselves entirely to their legitimate work.

Cost of Maintaining the College.

The cost of maintaining a great institution like the Berlin College is very great. Most of this is borne by the State. In 1905 the total revenue of the college, apart from State grants, was about £7700. The total expenditure was about £36,400. The balance of £28,700 was borne by the State. In addition to this there was a considerable capital expenditure taking place. For instance, with the help of the union of German millers and the State, they were in 1905-6 building a new technical department for cereal industries at a cost of over £30,000.

The above short account of their sister in Berlin is sufficient to show that our agricultural colleges in Britain have still some progress to make before they reach an equal state of development. In Canada a new agricultural college is at present being founded at a cost of £600,000, gifted for the purpose by Sir William Macdonald, a prominent and wealthy Scotch-Canadian. Our colleges in Scotland require support on a scale similar to that obtained from the State in Germany and from wealthy benefactors in Canada if they are to accomplish similar work.

DAIRY INVESTIGATIONS IN THE NORTH-EAST OF ENGLAND.

INFLUENCE OF FOOD ON MILK YIELD.

By DOUGLAS A. GILCHRIST, Professor of Agriculture, and C. BRYNER JONES, Lecturer in Agriculture, Armstrong College, Newcastle-upon-Tyne.

IN a former article (see 'Transactions,' fifth series, vol. xviii. p. 63, 1906) dairy research work in the counties of Durham and Northumberland was reported on, which had been carried out in connection with Armstrong College, Newcastle-upon-Tyne, in the years 1903-5. In this second article the subjects dealt with are the results of experiments on Mr J. McLaren's farm at Offerton Hall, Sunderland. This work is being subsidised by the Durham County Council, as fully explained in the previous article.

Effects of Different Quantities of Concentrated Food on Milk.

In connection with the Offerton scheme previously described, a series of experiments on the feeding of dairy cows was commenced at Offerton Hall in the beginning of 1904, the object being to test the effect on the milk of *moderate and heavy amounts respectively of concentrated food.* It was not the intention of those responsible for the experiments to enter upon the larger question of the effect of food upon the milk generally, but rather to determine, once the cows receive an adequate allowance of concentrated food in their daily ration to keep them in a thriving condition, whether there is any real advantage in increasing this allowance with the object of improving the milk, either in yield or quality, or both. In view of the opinions which prevail in many quarters upon this point, the results of such experiments should be of considerable interest to dairy farmers. Two series of experiments have now been completed, in each of which two lots of cows were fed with different quantities of the same concentrated food, all other conditions being the same for both lots.

I. TRIALS WITH HOUSE-FED COWS.

Before the commencement of each series of experiments preliminary trials were conducted with a larger number of cows than was actually necessary, the object of this being to eliminate any animal which was not comparatively "regular," both in the yield and quality of its milk, as well as to furnish the data necessary for satisfactorily arranging cows in lots. At the end of the preliminary trials the cows were selected finally for the purpose of the experiment, and these were divided into two lots of five. The cows were milked three times a-day, which is the practice at Offerton, the hours of milking being 5 A.M., 12.30 P.M., and 6 P.M. The mixed milk of each lot was sampled morning, noon, and evening, each sample being placed in a bottle and labelled. There were thus every day three samples taken from each lot. The total milk of each lot was weighed at each milking, and the quantity recorded on sheets printed for the purpose. The butter-fat was estimated by means of a Gerber Acid-Butyrometer, and the "solids-not-fat" calculated in the usual way, the results being then recorded on the sheets side by side with the milk yield for each day.

In the first series of experiments the cows were divided into lots according to their live-weights, and at the end of the preliminary trials the two lots stood as follows:—

	Average yield of milk per cow per day.	Per cent of butter fat in daily yield.	Average live-weight.
Lot I. . . .	23·47 pints	3·45	1064 lb.
Lot II. . . .	25·04 "	3·36	1068 "

The difference in live-weights between the two lots was, as will be seen, very slight; the difference in butter-fat was by no means great; but that in the yield was considerable, although not so great as to interfere much with the results of the experiment.

It was decided that the amount of concentrated food supplied to the cows should be 8 lb. and 12 lb. per day for Lot I. and Lot II. respectively, the bulky food being the same for both lots. The full daily rations used were as follow:—

	Lot I.			Lot II.	
8 lb. concentrated food.	3 lb.	maize meal.	*12 lb. concentrated food.*	4½ lb.	maize meal.
	2 "	malt dust.		3	malt dust.
	3 "	Egyptian cotton-cake.		4½	Egyptian cotton-cake.
	6 "	chopped straw.		6	chopped straw.
	15 "	hay.		15	hay.
	60 "	roots.		60	roots.

In calculating the ration for Lot I., care was taken to supply on the average each animal in its daily ration with the minimum amount of organic matter required. Lot II. thus received 4 lb. a-day of concentrated food per cow in excess of its requirements from the theoretical standpoint, and an opportunity was thus given of determining whether this extra food would be utilised by the animal for the production of more or better milk than Lot I., having regard, of course, to the original difference between the two lots in this respect. With a view of making allowance for individual differences between the cows, the ration for Lot I. was calculated for 1150 lb. live-weight. The ration for this lot originally contained 29·24 lb. organic matter, and that for Lot II. 32·52 lb. It was found necessary at the end of a fortnight to reduce the quantity of hay for each lot from 15 lb. to 12 lb. per day, as the cows did not consume the amount originally given. The total organic matter was thus reduced to 26·9 lb. per day in the case of Lot I., and to 30·18 lb. in that of Lot II. The cake and meal and chopped straw were made into "crowdy" before being fed to the cows. The mixture of concentrated food and chop, already weighed out for each lot, was placed in a vessel and hot water poured upon it. The "crowdy" was thus prepared every afternoon for use on the following day. Water was supplied *ad lib.*

The first experiment of this series was commenced on February 10, 1904, when the cows were placed on the above rations, and continued till May 3—a period of 12 weeks.

The second experiment of the first series was commenced on June 1, a month after the first experiment was completed. The cows were then on grass, and the two lots were reversed as regards concentrated food, Lot I. being given a fairly heavy allowance for summer feeding, and Lot II. a light ration. The daily rations were as follow:—

	Lot I.		Lot II.
8 lb concentrated food	4 lb. maize meal.	*4 lb. concentrated food*	2 lb. maize meal.
	4 " Egyptian cotton-cake.		2 " Egyptian cotton-cake.
	3 " chopped straw.		3 " chopped straw.

The same object was kept in view throughout the inquiry, while by reversing the cows in this manner it was thought that the second experiment would act as a check upon the first. The cows were kept on these rations for a further period of 12 weeks. It should be stated that the cows received from the middle of July to the end of the experiment, August 24, a small quantity of green tares, each lot receiving the same allowance.

The results of this first series of experiments led to a second series being carried out with a fresh set of cows. Arrangements were accordingly made in the autumn of 1904 to commence the second series on the same lines. Preliminary trials were conducted as before, the ten cows selected being then divided into two lots according to the yield and quality of the milk, and not according to their live-weight as in the previous case. At the end of the preliminary trials the two lots of cows in the second series stood as follows:—

	Average yield of milk per cow per day.	Per cent of butter-fat in daily yield	Average live-weight.
Lot I. . . .	27·4 pints	3·32	1134 lb.
Lot II. . . .	27·6 "	3·23	1195 "

The rations used in this case were similar to those in the first series as far as the relative proportion of total organic matter is concerned. The cows, however, were heavier on the average, and the smaller ration was so calculated that it would contain the minimum organic matter required for a cow weighing 1200 lb. live-weight. The daily rations supplied per 1000 lb. live-weight were as follow:—

Lot I.			Lot II.		
8 *lb. concentrated food*	4 lb.	maize meal.	12 *lb. concentrated food*	6 lb.	maize meal.
	2	Bombay cake.		3	Bombay cake.
	2	linseed cake.		3	linseed cake.
	6	chopped straw.		6	chopped straw.
	12	hay.		12	hay.
	50	roots.		50	roots.

The total amount of organic matter supplied to Lot I. was 30·98 lb. per day, and for Lot II. 34·94 lb. It will thus be seen that even Lot I. received considerably more than the theoretical minimum. The cows were placed on these rations on November 1, 1904, and the experiment continued till January 23, 1905—a period of 12 weeks as before.

As soon as this experiment came to an end, the cows were reversed, Lot I. receiving the heavier ration, and Lot II. the lighter, and were fed in this manner for a further period of 12 weeks—from February 1 to April 25, 1905.

As in the earlier experiments, the cake and meal and chopped straw were made into "crowdy," and drinking water was supplied *ad lib.*

The reader will thus see that the two series of experiments consisted of four complete trials. Two different sets of cows were tested at different times, each set being under experiment for 24 weeks. Each set of cows consisted of two lots, and each lot was placed in turn upon a heavy and a moderate allowance of concentrated food for a period of 12 weeks. The following table gives in a concise form the order in which the experiments were carried out:—

FIRST SERIES.

SET OF 10 COWS IN TWO LOTS OF 5.

	Period.		Allowance of concentrated food. Lot I.	Lot II.
Experiment A .	Feb. 10–May 3, 1904	.	Moderate	Heavy
Experiment B . (Rations reversed).	June 1–Aug. 24, "	.	Heavy	Moderate

SECOND SERIES.

FRESH SET OF 10 COWS IN TWO LOTS OF 5.

		Lot I.	Lot II.
Experiment C .	Nov. 1, 1904–Jan. 23, 1905	Moderate	Heavy
Experiment D . (Rations reversed).	Feb. 1–April 25, 1905	Heavy	Moderate

Effect on the Yield.

It is not possible, within the limit of the present article, to deal with the results in great detail. They will, therefore, be taken as a whole, sufficient data being given in support of the conclusions arrived at to enable the reader to follow the trend of the experiments. It will be more convenient if we take the results dealing with the effect of the rations upon the quantity and quality separately. The following tables show the effect of the rations on the yield in experiments A and C. These experiments are the first in each series, and relate to two different sets of cows.

EXPERIMENT A.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending :—	Lot I. 8 lb. concentrated food.				Lot II. 12 lb. concentrated food.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
Feb. 16 . .	47·25	30 5	24·7	102·45	53·5	32·3	28	113·8
" 23 . .	43	29·2	22·8	95·0	53·1	35·5	30·25	118·85
March 1 . .	44·3	29·3	22	95·6	55·2	35	28	118·2
" 8 . .	45	29	23	97 0	52·6	34·3	29·2	116 1
" 15 . .	44·3	29	22·5	95·8	53·5	34·7	29·5	117·7
" 22 . .	43	28·8	21·8	93·6	51·3	33 5	27·5	112·3
" 29 . .	39·3	27·4	21	87·7	47·6	31·8	25	104·4
April 5 . .	42	28	21·2	91·2	47·8	31	24·5	103·3
" 12 . .	41·3	28·5	21	90·8	47·4	31	24	102·4
" 19 . .	41	28	21·6	90·6	49	33	28·4	110·4
" 26 . .	44	30·5	23	97·5	51·8	34 5	28	114 3
May 3 . .	43	30·3	25	98·3	51·2	35	30	116·2
Average per lot per day	**43·12**	**29·04**	**22·46**	**9 ·62**	**51·16**	**33·46**	**27·69**	**112·31**

EXPERIMENT C.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending:—	Lot I. 8 lb. concentrated food per 1000 lb. live-weight.				Lot II. 12 lb concentrated food per 1000 lb. live-weight.			
	Morn.	Noon.	Even.	Total.	Morn	Noon.	Even.	Total.
Nov. 7 . .	61	37	33	131	65	39	36	140
" 14 . .	58·5	34·5	31	124	67	38·5	35·5	141
" 21 . .	58	34·5	29·5	122	61·5	36	32·2	130
" 28 . .	54	33	27	114	59	36	29	124
Dec. 5 . .	51	31	26	108	62	38	30·5	130·5
" 12 . .	54	34·5	29	117·5	63	38·5	30	131·5
" 19 . .	57	34·5	27·5	119	64	38	30	132
" 26 . .	58	35·5	27	120·5	62·5	39	30	131·5
Jan. 2 . .	57	34	26	117	64	38	30·5	132·5
" 9 . .	57	33	27	117	63	37	30	130
" 16 . .	57	36	27·5	120·5	64	39	30·5	133·5
" 23 . .	58·5	35·5	27·5	121·5	62	37·5	30	129·5
Average per lot per day	**56·75**	**34·41**	**28·16**	**119·33**	**63·08**	**37·87**	**31·18**	**132·16**

In both these experiments it will be seen that the heavy ration caused an increase in the milk yield. The increase in Experiment A amounted to nearly 2 pints per cow per day, allowance being of course made for the original difference in the daily yield of the two lots of cows as shown in the preliminary trials. In Experiment C there was an increase of about 2½ pints per cow per day in favour of the heavy ration. It is questionable whether this would be regarded in practice as a satisfactory and profitable increase, but in any case there can be little doubt that it is much smaller than many dairy farmers would expect from an extra 4 lb. a-day of concentrated food. It will be observed that the cows in Experiment C gave more milk than those in Experiment A, this being probably due in a great measure to the fact that they had not calved so long as those in Experiment A when the trial commenced. As is frequently the case, in both experiments each lot gave more milk in the morning than at noon and in the evening.

As showing a possible connection between the weather and the milk yield, it is interesting to note the variation in the total yields in Experiment A. The total yields, as shown in the table, decreased in both lots up to April 12, and a slightly further decrease occurred in Lot I. up to April 19. From then onwards there is a considerable increase in the daily yield up to the end of the experiment. According to notes taken at Offerton there was, from about the middle of April, a decided improvement in the weather, especially as regards temperature, and this change for the better in the climatic conditions practically coincides with the improvement in the milk yield. These facts confirm the results given in the first article, and are worth recording as showing that there are causes which exert a decided influence upon the milk yield independently of the food supplied to the cows.

It may be concluded from the results given in the above tables that a heavy allowance of not less than 12 lb. of concentrated food per head per day may cause an increase in the milk yield as compared with a moderate allowance; but it is doubtful whether this increase is commensurate with the cost of the food, and there is, moreover, reason to believe that the increase is largely temporary. It seems fair to infer from these experiments that while a greater milk yield may at first be caused by increasing the amount of concentrated food in the ration, there is a limit, even when the cows are in full milk, beyond which the milk cannot be increased with profit. It was not the object of these experiments to determine what this limit should be, but it is tolerably certain that 12 lb. of concentrated food per 1000 lb. live-weight per day is excessive.

That a heavy allowance of concentrated food is largely temporary in its effects upon the milk yield is more clearly shown in the results of Experiment D, which are embodied in the next table. In this experiment the cows were kept under the same conditions exactly as in Experiment C, except for the fact that the rations were reversed as already shown.

EXPERIMENT D.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending :—	Lot I. 12 lb. concentrated food per 1000 lb. live-weight.				Lot II. 8 lb. concentrated food per 1000 lb. live-weight.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total.
Feb. 7 . .	50·5	31	24	105·5	57	33·5	29	119·5
" 14 . .	57	35	28	120	59	35·5	31	125·5
" 21 . .	59·5	36·5	29	125	56	35·5	28	119·5
" 28 . .	52	32	25	109	50	31	25·5	106·5
March 7 . .	49·5	30	25	104·5	50	31	26	107
" 14 . .	54	33	26	113	54	33·5	28	115·5
" 21 . .	52·5	33·5	25·5	111·5	53	33·5	27	113·5
" 28 . .	51·5	32	25	108·5	54	34	26	114
April 4 . .	48·5	33	23	104·5	54	33	25·5	112·5
" 11 . .	46	30·5	23·5	100	54	32·5	28	114·5
" 18 . .	46	30·5	23	99·5	51·5	32	25·5	109
" 25 . .	50	31·5	25·5	107	53	30·5	27	110·5
Average per lot per day	51·41	32·37	25·20	109	53·79	32·95	27·20	113·95

At the end of Experiment C, Lot I. had an average yield of over 119 pints per day. From that time onwards the cows in this lot received 4 lb. of concentrated food per 1000 lb. live-weight more than they did during the preceding three months, and yet this extra quantity does not cause any increase in the milk yield, except during the second and third weeks. The average at the end of Experiment D is 109 pints for this lot. It is true that as the lactation period advances, it must be expected that cows will usually give less milk, and this no doubt accounts largely for the falling off in the case of Lot I. in this test. What is of special interest here, however, is that when the cows begin to fall off in their milk yield as the lactation period advances, it does not answer any useful purpose to give them more food with a view of checking this falling off. That is clear in the case of Lot I. in Experiment D. These results, moreover, indicate that not only is a heavy allowance of concentrated food temporary in its effects, but also that as long as the cows are kept in a house it does not cause any material increase in the milk yield as compared with a moderate ration, except early in the lactation period.

What is abundantly clear here is the decided effect of grass-feeding upon the milk yield, independently of every other food given to the cows at the same time. Experiment B in the first series, as already shown, was conducted during the summer of 1904, when the cows were on grass. They were the same cows as in Experiment A, but Lot I. in this instance received a heavy allowance of concentrated food, and Lot II. only a moderate allowance. Lot I., thus, after receiving a *moderate* allowance of concentrated food inside, go out on grass and receive a *heavy* allowance, and Lot II. exactly the reverse. The results are given on Table on p. 122.

Taking the final averages, it will be seen that Lot II. gave more milk on 4 lb. of concentrated food per cow per day than Lot I. did on 8 lb., and that this was the better lot throughout, both in Experiment A and Experiment B, irrespective of the amount of concentrated food supplied in the daily ration. As compared with the average results at the end of Experiment A, *both* lots in Experiment B improved considerably at first. Had the improvement been in Lot I. alone, it would have been more or less decisive evidence in favour of the heavy ration of concentrated food. As it is, we can only conclude that the change from stall- to grass-feeding is largely responsible for the improvement during the first half of Experiment B. It is interesting to observe that only on five occasions out of twelve is the weekly average of Lot I. above that of Lot II., and even on these occasions the difference is generally small. It is true that there was a great improvement in Lot I. in Experiment B as compared with Experiment A, but it must be observed that this improvement is not maintained, for in the second half of the experiment, from July 20 to August 24, there is a serious falling off in this lot.

EXPERIMENT B.

QUANTITY OF MILK IN PINTS PER LOT PER DAY FOR 12 WEEKS.

Week ending:—	Lot. I 8 lb. concentrated food.				Lot II. 4 lb. concentrated food.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon	Even.	Total.
June 8 . .	54·8	33	29 6	117·4	54·6	33·5	30	118·1
" 15 . .	54·6	33	28·2	115·8	53·1	33·2	30	116·3
" 22 . .	55·7	34·7	29·6	120	53	33	29	115
" 29 . .	54	33	28	115	51	32·6	29	113·6
July 6 . .	55	33·7	27	115·7	53	34	29	116
" 13 . .	53	32	27	112	50	31	28	109
" 20 . .	50	29	25·5	104·5	47	29	26	102
" 27 . .	46	28·4	24·4	98·8	44	29	25	98
August 3 . .	42·7	26	21	89·7	42 6	26	24 5	93·1
" 10 . .	41	24·8	20·5	86 3	42·5	26 3	23·8	92·6
" 17 . .	38·5	24	20	82·5	42·9	27·2	23·7	93·8
" 24 . .	37	23	20	80	41·6	26	24	91·6
Average per lot	**48·52**	**29·55**	**25·06**	**103·14**	**47 94**	**30·14**	**26·83**	**104 92**

Effect on the Quality.

Attention will be directed chiefly in this connection to the effect of heavy and moderate allowances respectively of concentrated food on the amount of butter-fat in the milk, this being, as a rule, much more variable than the other solid constituents. The following table, giving the results of Experiment A, will be of interest as showing not only how the butter-fat may vary from week to week, but also how uncertain it is that the quality of milk may be improved by giving the cows more concentrated food. The average butter-fat in the total daily yield of milk is calculated in the following tables from the morning, noon, and evening averages for the whole period of the experiment, and allowance is, of course, made for the difference in the average yield of milk, morning, noon, and evening, for the same period:—

EXPERIMENT A.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending :—	Lot I. 8 lb. concentrated food.			Lot II. 12 lb. concentrated food.		
	Morning.	Noon.	Evening.	Morning	Noon.	Evening.
February 16 . .	2·83	3·97	3·92	2·50	3·60	3·50
" 23 . .	2·84	3·87	3·94	2·33	3·50	3·61
March 1 . .	2·92	3·95	4·16	2·57	3·60	3·90
" 8 . .	3·06	4·00	4·00	2·60	3·60	3·70
" 15 . .	3·13	3·90	3·60	2·50	3·60	3·50
" 22 . .	3·00	4·00	4·00	2·50	3·70	3·60
" 29 . .	3·00	3·90	4·00	2·60	3·80	3·70
April 5 . .	3·00	3·90	4·00	2·80	3·90	3·80
" 12 . .	2·90	3·80	3·90	2·50	3·70	3·60
" 19 . .	3·00	4·10	3·90	2·60	3·80	3·60
" 26 . .	3·00	4·00	3·70	2·70	3·70	3·60
May 3 . .	3·00	3·90	3·70	2·70	3·80	3·50
Average . . .	**2·97**	**3·94**	**3·90**	**2·57**	**3·69**	**3·63**

General average for day's milk: Lot I., 3·48; Lot II., 3·16.
Total butter-fat per day: Lot I., 4·24 lb.; Lot II., 4·58 lb.

These figures show that Lot I. gave milk which was considerably richer in butter-fat than did Lot II., and this in spite of the fact that it received 4 lb. per cow per day less concentrated food than the latter. It is true that in the preliminary trials Lot I. gave more butter-fat by ·09 per cent than Lot II.; but during the period of the experiment, this difference was increased to ·32 per cent in favour of the same lot. This result is totally unfavourable to the heavy ration from the point of view of the milk-seller, whose object it is to maintain the milk over the fat standard. It is slightly less so from the butter-maker's standpoint, but even here it has nothing to recommend it if we have regard to profit.

It is worthy of note that the morning milk of Lot II. was, on the weekly averages, invariably below the standard in butter-fat. The morning milk of both lots was below the standard on the average of 12 weeks, but Lot I. was by no means so consistently low as Lot II.

Effects on Cows on Grass.

When the cows used in Experiment A were turned out to grass, the milk of both lots improved, and especially that of Lot II. This lot on grass only received one-half the concentrated food of Lot I. The following table shows the effect of the feeding on the butter-fat during Experiment B:—

EXPERIMENT B.—COWS ON GRASS.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—	Lot I. 8 lb. concentrated food.			Lot II. 4 lb concentrated food		
	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
June 8 . .	3·27	3·90	3·80	3·10	3·80	3·80
" 15 . .	3·20	3·80	3·80	3·00	3·85	3·80
" 22 . .	3·10	4·00	3·60	3·10	4·00	3·70
" 29 . .	3·70	4·00	3·60	2·90	3·70	3·60
July 6 . .	3·10	3·90	3·50	2·90	3·60	3·50
" 13 . .	3·10	3·80	3·50	2·90	3·70	3·60
" 20 . .	3·00	3·70	3·60	3·00	3·50	3·80
" 27 . .	3·20	3·70	4·20	3·00	3·70	3·80
August 3 . .	3·40	3·90	3·60	3·10	3·90	3·50
" 10 . .	3·40	3·80	3·80	3·10	3·80	3·60
" 17 . .	3·20	3·80	3·70	3·10	3·80	3·80
" 24 . .	3·20	3·70	3·80	3·20	3·70	3·70
Average . . .	**3·23**	**3·83**	**3·70**	**3·03**	**3·75**	**3·68**

General average for day's milk: Lot I, 3·51; Lot II, 3·40.
Total butter-fat per day: Lot I., 4·57 lb.; Lot II., 4·60 lb.

There was during the summer, as already pointed out, an improvement in both lots. Lot I. was still, however, the better lot as regards the quality of the milk; and the inference to be drawn from these results, taking Experiments A and B together, is that the quality of milk, like the yield, is less dependent upon the feeding than on the character of the cows. The same lot of cows in these trials, both with the smaller allowance of concentrated food in the winter and the larger allowance in the summer, gave throughout, in spite of the change of food, the richer milk.

Second Series.

The results of the second series of experiments are given in the tables on next page (Experiments C and D).

In Experiment C both lots were again under the standard in the morning, but Lot II. gave slightly better milk on the average than did Lot I. The difference between the two lots, however, is so small in Experiment C that it may be neglected for practical purposes, and is in no way sufficient to prove the superiority of the heavy ration over the moderate one. In Experiment D

EXPERIMENT C.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—	Lot I. 8 lb. concentrated food per 1000 lb. live-weight.			Lot II. 12 lb. concentrated food per 1000 lb. live-weight.		
	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
November 7 . .	2·8	3·7	3·8	2·9	3·9	3·6
" 14 . .	2·8	3·8	3·8	2·9	3·7	3·5
" 21 . .	2·8	3·7	3·8	2·8	3·7	3·8
" 28 . .	2·9	3·7	3·8	2·9	3·8	3·6
December 5 . .	3·0	3·6	3·8	2·9	3·9	3·3
" 12 . .	2·9	3·6	3·7	2·9	3·8	3·6
" 19 . .	2·8	3·8	3·7	2·9	3·8	3·5
" 26 . .	2·9	3·7	3·7	3·0	4·0	3·4
January 2 . .	3·0	3·5	3·6	3·0	3·9	3·3
" 9 . .	2·9	3·6	3·6	3·0	3·7	3·2
" 16 . .	2·9	3·7	3·6	3·2	3·9	3·3
" 23 . .	2·9	3·7	3·6	3·0	3·8	3·3
Average . . .	2·88	3·59	3·70	2·95	3·82	3·45

General average for day's milk: Lot I., 3·28; Lot II., 3·31.
Total butter-fat per day: Lot I., 5·05 lb.; Lot II., 5·64 lb.

EXPERIMENT D.

AVERAGE PERCENTAGE OF BUTTER-FAT IN MILK FOR 12 WEEKS.

Week ending:—	Lot I. 12 lb. concentrated food per 1000 lb. live-weight.			Lot II. 8 lb. concentrated food per 1000 lb. live-weight.		
	Morning.	Noon.	Evening.	Morning.	Noon.	Evening.
February 7 . .	3·2	3·7	3·9	3·2	3·9	3 3
" 14 . .	3·1	3·8	3·8	3·0	4·0	3·5
" 21 . .	2·9	3·9	3·4	2·9	4·0	3·4
" 28 . .	3·0	3·9	3·9	3·1	4·0	3·5
March 7 . .	3·1	3·9	4·0	3·1	3·9	3·3
" 14 . .	3·0	3·9	3·8	3·0	4·0	3·3
" 21 . .	3·1	3·8	3·8	3·2	4·0	3·5
" 28 . .	3·2	3·9	3·8	3·0	4·1	3·4
April 4 . .	3·5	3·7	4·0	3·3	3·9	3·9
" 11 . .	3·3	3·9	3·8	3·3	3·9	3·3
" 18 . .	3·2	4·0	3·7	3·3	4·0	3·5
" 25 . .	3·2	3·8	3·8	3·2	4·0	3·6
Average . . .	3·15	3·85	3·80	3·13	3·97	3·45

General average for day's milk: Lot I., 3·50; Lot II., 3·44.
Total butter-fat per day: Lot I., 4·92 lb.; Lot II., 5·06 lb.

the milk of *both lots* was considerably richer on the average than in the preceding experiment, with a small difference in favour of Lot I. It is worthy of note that the difference in percentage of butter-fat, on the average, between the two lots in Experiment D, when Lot I. received 4 lb. concentrated food per cow per day more than Lot II., was actually less than it was in the preliminary trials, when the two lots were fed exactly alike.

The "solids-not-fat" in milk do not vary very much as a rule. The average results in the experiments under consideration were as follows:—

AVERAGE PERCENTAGE OF SOLIDS-NOT-FAT IN MILK.

	Lot I.				Lot II.			
	M	N	E.	Average daily.	M.	N.	E.	Average daily.
Experiment A . .	9·09	9·08	9·17	**9·1**			8·87	**8·82**
Experiment B . .	8·92	9·05	9·06	**8·99**	8·80	8	8·94	**8·82**
Experiment C . .	8·80	8·99	8·96	**8·8**	8·78	9·03	8·98	**8·8**
Experiment D . .	8·88	9·02	8·99	**8·9**		9·00	8·91	**8·8**

Practically, the only difference of note in the experiments was in Experiments A and B, when Lot I. gave milk richer in solids-not-fat throughout than Lot II., which, as the reader will recollect, was also the case with the butter-fat. This was obviously due more to the character of the cows than the feeding.

Effects on Live-weight.

The effect of moderate and heavy rations on the live-weight of cows while giving milk is indicated in the following statement of the increase or decrease in the average live-weight of the cows in the experiment under notice:—

EFFECT OF RATIONS ON LIVE-WEIGHT.

	Lot I.*	Lot II.*
Experiment A . .	+ 32 lb. per cow.	*+62 lb. per cow.*
Experiment B . .	*+110 lb.* "	+72 lb. "
Experiment C . .	− 13 lb. "	*+25 lb.* "
Experiment D . .	*+ 66 lb.* "	− 9 lb. "

* Results of heavy rations in italics, light rations in ordinary type.

It will be seen that the greater increase in live-weight consistently followed the use of the heavier ration. Whether the increase is a profitable one is a point with which we are at present not directly concerned. It should be pointed out that the average loss of 13 lb. per cow in the case of Lot I. in Experiment C was due to one cow almost entirely, as was also the loss of 9 lb. in Lot II. in Experiment D. Without this explanation these figures would be a little misleading.

II. THE USE OF CONCENTRATED FOOD ON PASTURE.

The experiments already described having shown that heavy allowances of concentrated food are not to be recommended on grounds of economy during the winter months, when the cows are indoors, the question arose whether it is advisable to give dairy cows much concentrated food when out at grass during the summer. It is a common practice amongst dairy farmers to give their cows a certain amount of cake and meal in addition to grass, unless the pasture is of the very best quality, with a view of either keeping up the yield of milk or of improving its quality. It appears to be assumed in most cases that this is a profitable course to follow. The results of Experiment B, already described, indicated that there might be some doubt on the point, and with a view of obtaining definite information on the matter, and to determine to what extent, if at all, it is profitable to hand-feed cows in the summer, a series of experiments was carried out at Offerton Hall during the summers of 1905 and 1906. As the results have a close connection with the preceding section of this article, they may be briefly described here. They will doubtless prove of interest to the reader.

Preliminary trials were conducted, to begin with, in each case, with the object of eliminating any cows which happened to be in any way irregular or abnormal, ten cows being finally selected for each experiment. These were divided, as in the previous trials, into two lots of five cows each, the cows in each lot being so arranged that the average yield of milk per day, and the percentage of butter-fat, were practically the same in each lot. The milk was sampled and tested exactly as in the previous experiments.

The present experiments continued for 12 weeks in 1905 and 10 weeks in 1906. With a view of showing the general effect on the milk of concentrated food consumed on grass, as well as of different quantities of the same food, the term of the experiment was in each season divided into two equal periods, the cows receiving concentrated food having their allowance doubled in the second half of the experiment, while the other lot of cows received no concentrated food at all throughout the experiment.

Both in 1905 and 1906 the two lots were fed as follow:—

FIRST PERIOD.

6 Weeks in 1905; 5 Weeks in 1906.

Lot I.	Lot II.
2 lb. maize meal. 2 lb. Bombay cotton-cake. 2½ lb. straw chaff. Grass.	Grass only.

SECOND PERIOD.

6 Weeks in 1905; 5 Weeks in 1906.

Lot I.	Lot II.
4 lb. maize meal. 4 lb. Bombay cotton-cake. 3 lb. straw chaff. Grass.	Grass only.

It will thus be seen that precisely the same plan was adopted in both years. The cows used in 1906 were all different, with the exception of two, from those used in 1905,—a fact which adds considerably to the value of the experiments as a whole. During the trials the cows grazed with the rest of the Offerton herd, the pasture being of average quality. The concentrated food and straw chaff given to Lot I. was made into "crowdy" as usual, and fed to the cows in this form twice a-day just before milking at noon and in the evening. The cows had access to water at all times, being out night and day except at milking-time.

For the sake of convenience, the 1905 experiment will be described as Experiment G, and that of 1906 as Experiment H. At the end of the preliminary trials the two lots of cows stood as follows:—

EXPERIMENT G, 1905.

	Average yield of milk per cow per day.	Per cent of butter-fat in daily yield.	Average live-weight.
Lot I. . . .	34·0 pints	3·40	1134 lb.
Lot II. . . .	34·4 pints	3·38	1103 lb.

EXPERIMENT H, 1906.

Lot I. . . .	30·2 pints	3·48	1018 lb.
Lot II. . . .	30·2 pints	3·46	1016 lb.

Experiment G continued from June 20 to September 12, 1905, and Experiment H from June 18 to August 27, 1906. In dealing with the results it will not be necessary to give the details here, and the averages for each period only will be shown.

Effect on the Yield.

The quantity of milk produced by the two lots in each experiment is shown in the following table. The reader will bear in mind that Lot I. received 4 lb. concentrated food per head per day in the first half of each experiment, and 8 lb. in the second half, while Lot II. received none at all.

QUANTITY OF MILK IN PINTS PER LOT PER DAY.

EXPERIMENT G, 1905.

	Lot I.				Lot II.			
	Morn.	Noon.	Even.	Total.	Morn.	Noon.	Even.	Total
Average for 1st 6 weeks	57·20	39·70	31·3	128·30	57·0	39·6	32·10	128·70
" 2nd 6 weeks	51·16	34·25	27·5	112·91	33·1	33·1	26·83	109·17
Average for 12 weeks	54·18	36·97	29·4	120·6	53·12	36·35	29·46	118·93

EXPERIMENT H, 1906.

Average for 1st 5 weeks	61·2	41·5	33·7	136·4	62·4	40·7	35·3	138·4
" 2nd 5 weeks	51·9	33·1	27·4	112·4	50·2	31·7	26·8	108·7
Average for 10 weeks	56·55	37·3	30·55	124·4	56·3	36·2	31·05	123·55

The similarity in the results in both experiments is remarkable, the figures for the second period in each case being almost identical. There was a falling off in both lots towards the end of each experiment, the drop being greater in Experiment H than in Experiment G. The striking feature of both the experiments is the closeness of the two lots of cows as regards their yield throughout. In Experiment G, taking the average yield for the whole period of the experiment, there was a difference only of slightly over 1½ pints in favour of Lot I., in spite of the concentrated food supplied to it. Even in the second half of the experiment the difference was hardly what it should have been, having regard to the fact that Lot I. during this time received 8 lb. per head of cake and meal per day.

On the whole, therefore, there was only a very small advantage from using the concentrated food, and what advantage there was seems to have been confined to the last portion of the experiment. Experiment H confirms in a striking degree the results of Experiment G. The difference between the two lots over the whole period was even less here than in the preceding case, and the general result is precisely the same as in 1905,—there was not sufficient difference to make the use of the concentrated food profitable. In this case, again, the chief difference occurred in the second half of the experiment. In the first half, Lot II. was on the average actually superior to Lot I. by about 2 pints per day, although it was Lot I. which received the cake and meal. The summer of 1906 was very dry, and it is surprising that the milk yield was not affected to a greater degree than it was. The sudden drop in the second half of Experiment H may possibly be due to this; but it is noteworthy that the drought, if this was the case, affected both lots alike.

The increasing of the allowance of concentrated food for Lot I. in the second half of the period was attended with much the same result in both experiments. In neither case did it increase the milk yield as compared with the first period, nor, indeed, did it prevent to any extent the falling off in the yield. In any case, it is probable that had Lot I. been kept on the original quantity of cake and meal throughout, it would have given equally good results. The loss financially was obviously greater owing to the increase in the food.

On the financial aspect of the question the two experiments are in striking agreement, as they are on other points. The milk of Lot I. over the whole period in each experiment was produced at practically double the cost of that of Lot II., the selling price of the milk being the same, of course, in both cases. With the slight difference in the yield of the two lots, a very simple calculation will show the reader how unprofitable Lot I. in each experiment has been when compared with Lot II.

It is possible that the results might have been different had some other kind of concentrated food been used, and if the experiments had been commenced earlier in the season. As regards the former point, it may be pointed out that the food used was of a kind which is usually employed in practice during the summer, and there is no reason to believe that from any other food of a similar composition the results would have differed much from those obtained in the present experiments.

On some points the results of these trials might have been anticipated in view of what had occurred in previous experiments. But on the main point at issue—viz., the effect on the yield of a daily allowance of cake and meal when cows are on pasture—the results will probably appear remarkable to the majority of dairy farmers. The care with which the experiments were conducted, however, and the striking agreement between the results in both seasons, justify the conclusion that under conditions similar to those under which these experiments were conducted, much needless expense is incurred in connection with the feeding of dairy cows during the summer months, and that many dairy farmers might modify their practice with material advantage to themselves.

Effect on the Quality.

The effect of the two systems of feeding on the percentage of butter-fat in the milk is shown in the following tables:—

PERCENTAGE OF BUTTER-FAT IN MILK.

EXPERIMENT G, 1905.

	LOT I.			LOT II.		
	Morn.	Noon.	Even	Morn.	Noon.	Even.
Average for first 6 weeks	3·25	3·78	3·71	3·3	4·00	3·58
" second 6 weeks	3·20	3·70	3·86	3·2	3·96	3·76
Average for 12 weeks	3·22	3·74	3·78	3·25	3·98	3·67
Times under standard	6	...	...	3	...	...
Highest	3·8	4·5	4·4	3·7	4·5	4·2
Lowest	2·8	3·0	3·1	2·8	3·6	3·3

Average percentage in total daily yield,		Lot I.	Lot II
	1st period	3·52	3 58
	2nd period	3·51	3·56

EXPERIMENT H, 1906.

Average for first 5 weeks	3·00	3·64	3·74	3·06	3·70	3·78
" second 5 weeks	3·08	3·58	3·78	3·10	3·92	3·84
Average for 10 weeks	3·04	3·61	3·76	3·08	3·81	3·81
Times under standard	21			13		
Highest	3 4	4·2	4·2	3·4	4·4	4·4
Lowest	2·6	3·0	3·3	2·7	3·4	3·2

Average percentage in total daily yield,		Lot I	Lot II
	1st period	3·37	3 43
	2nd period	3 39	3·52

The average percentage of butter-fat was so similar in the two lots, and the agreement between the two experiments so close, that it seems hardly necessary to make much comment on the above table. It is somewhat curious that the milk of Lot II. was on the whole richer in butter-fat than that of Lot I. in both experiments, although in the preliminary trials the slight difference in the butter-fat was in favour of Lot I.

The reader will observe the number of times the morning milk was under the 3 per cent standard in each lot, and it is an interesting fact that Lot I. was in both experiments the worse in this respect.

It is perfectly clear that the concentrated food supplied to Lot I. had practically no effect on the butter-fat. It certainly caused no improvement, but whether it actually reduced the percentage there is perhaps not sufficient evidence to show. These results confirm on this point previous experiments carried out under different conditions.

The "solids-not-fat" in the milk of the two lots in each experiment are shown in the table below.

PERCENTAGE OF "SOLIDS-NOT-FAT" IN MILK.

EXPERIMENT G, 1905.

	Lot I			Lot II.		
	Morn	Noon	Even	Morn	Noon.	Even
Average for first 6 weeks . .	8·56	8·55	8·51	8·56	8·51	8·50
" second 6 weeks . .	8·51	8·50	8·55	8·56	8·46	8·55
Average for 12 weeks . . .	8·53	8·52	8·53	8·56	8·48	8·52
Times under standard . .	18	31	28	24	28	20
Highest	9·1	9·2	9·0	9·2	9·1	8·9
Lowest	8·1	7·9	7·9	7·9	8·0	8·0

EXPERIMENT H, 1906.

	Lot I			Lot II.		
	Morn	Noon	Even	Morn	Noon.	Even
Average for first 5 weeks . .	8·74	8·66	8·74	8·78	8·76	8·88
" second 5 weeks . .	8·70	8·66	8·72	8·80	8·74	8·78
Average for 10 weeks . . .	8·72	8·66	8·73	8·79	8·75	8·83
Times under standard . . .	8	8	4	7	6	1
Highest	9·4	9·1	9·1	9·3	9·2	9·2
Lowest	8·2	8·3	8·2	7·9	8·3	8·4

The "solids-not-fat" were considerably lower on the average in Experiment G than in Experiment H, and much less uniform. The number of times the milk was under the standard of 8·5 per cent in individual milkings in Experiment G was truly remarkable, and it is very difficult to ascribe any particular cause for this. There was a very close agreement between the two experiments, and the results taken as a whole clearly show that the quality of the milk was in no way improved by the concentrated food supplied to Lot I.; and it would appear inadvisable, as far as this point is concerned, to use any concentrated food of the description employed in these experiments on grass of average quality during the summer months.

Effect on Live-weight.

There is, finally, the effect of the two systems of feeding on the live-weight of the cows. The fluctuation in the average live-weight per cow in each lot is shown below:—

AVERAGE LIVE-WEIGHT IN LB. PER COW FOR EACH LOT.

EXPERIMENT G, 1905.

	Commencement.	Aug. 1.	Sept. 13.	Gain (+) or loss (−) over whole period.
Lot I. . .	1134	1141	1162	+28
Lot II. . .	1103	1092	1092	−11

EXPERIMENT H, 1906.

	Commencement.	July 23.	Aug. 27.	Gain or loss over whole period.
Lot I. .	1086	1069	1012	−74
Lot II. . .	1122	1117	1103	−19

In Experiment G the concentrated food caused an increase in the average live-weight in the cows in Lot I., the increase being greatest in the second six weeks, when the double quantity of cake and meal was supplied. When it is considered, however, that this lot did not produce much more milk than Lot II., the actual live-weight gain is very small. The comparatively small loss in the case of Lot II. occurred during the first half of the experiment. During the second half three out of the five cows actually gained in weight, and the loss in the average weight is entirely due to one cow, No. 93. The gain in the average weight in Lot I. is also largely due to one cow, No. 91. If these two cows were left out, there would have been very little difference in the average live-weight of the cows at the end. Even as it is, the gain in Lot I. may hardly be regarded as a profitable one.

In Experiment H both lots lost weight on the average, the loss being serious in Lot I. It should be explained that the loss in this case, again, was very largely due to two cows, Nos. 98 and 115, which, for some reason or other not apparent, lost 63 lb. and 105 lb. respectively during the second half of the experiment.

It is obvious from these results that concentrated food which is not paid for in the milk yield is not always recovered in the form of live-weight in the case of dairy cows. In neither of the two experiments described here did the cake and meal produce on the average any appreciable benefit, whether as regards the yield and quality of the milk or the live-weight of the cows. Profit was in both cases out of the question. Indeed, there was in this respect a serious loss, which was even greater in Experiment H than in Experiment G.

SUMMARY.

To enable the reader to compare the results of these experiments, and to supply him in a concise form with the chief data upon which the conclusions are based, the following summary will be found useful:—

First Series of Experiments.

PRELIMINARY TRIALS.—SET OF 10 COWS IN TWO LOTS OF 5.

	Milk per cow per day.	% fat.	Average live-weight per cow.
Lot I. . .	23·47 pints	3·45	1064 lb.
Lot II. . .	25·04 pints	3·36	1068 lb.

EXPERIMENT A.

12 Weeks, Feb. 8–May 3, 1904.

	Amount of concentrated food per cow per day.	Average milk per cow per day.	fat.	Total butter-fat per cow per day.	S.N.F.	Gain (+) or loss (−) in average live-weight per cow.
Lot I. .	8 lb.	18·92 pints	3·48	0·85 lb.	9·10	+32 lb.
Lot II. .	12 lb.	22·46 pints	3·16	0·91 lb.	8·82	+62 lb.

EXPERIMENT B.

12 Weeks, June 1–Aug. 24, 1904.

Same cows on grass. Rations reversed.

Lot I. .	8 lb.	20·63 pints	3·51	0·93 lb.	8·99	+110·2 lb.
Lot II. .	4 lb.	20·98 pints	3·40	0·92 lb.	8·82	+72 lb.

Second Series of Experiments.

PRELIMINARY TRIALS.—FRESH SET OF 10 COWS.

	Milk per cow per day	% fat	Average live-weight per cow.
Lot I. . .	27·4 pints	3·32	1134 lb.
Lot II. . .	27·6 pints	3·23	1195 lb.

EXPERIMENT C.

12 Weeks, Nov. 1, 1904–Jan. 23, 1905.

	Amount of concentrated food per cow per day.	Average milk per cow per day	% fat.	Total butter-fat per cow per day.	S.N.F.	Gain (+) or loss (–) in average live-weight per cow.
Lot I. .	8 lb. per 1000 lb. L.W.	23·86 pints	3·28	1·01 lb.	8·8	–13 lb.
Lot II. .	12 lb. per 1000 lb. L.W.	26·43 pints	3·31	1·13 lb.	8·8	+25 lb.

EXPERIMENT D.

12 Weeks, Feb. 1–April 25, 1905.

Same cows. Rations reversed.

Lot I. .	12 lb. per 1000 lb. L.W.	21·80 pints	3·50	0·98 lb.	8·9	+66 lb.
Lot II. .	8 lb. per 1000 lb. L.W.	22·79 pints	3·44	1·01 lb.	8·8	– 9 lb.

Cows on Pasture.

EXPERIMENT G, 1905.

SET OF 10 COWS IN TWO LOTS OF 5.

PRELIMINARY TRIALS.

	Milk per cow per day.	% fat.	Average live-weight per cow.
Lot I. . . .	34 pints	3·40	1134 lb.
Lot II. . .	33·4 pints	3·38	1103 lb.

RESULTS FOR FIRST 6 WEEKS, June 21–Aug. 1.

	Concentrated food per day	Average yield of milk per cow per day	Fat	S.N.F	Gain (+) or loss (−) in average live-weight per cow
Lot I.	4 lb.	25·66 pints	3·52	8·54	+ 7 lb.
Lot II.	None	25·74 pints	3·58	8·52	− 11 lb.

SECOND 6 WEEKS, Aug. 2–Sept. 12.

Lot I.	8 lb.	22·58 pints	3·51	8·52	+ 21 lb.
Lot II.	None	21·83 pints	3·56	8·52	. .

EXPERIMENT H, 1906.

PRELIMINARY TRIALS.

	Milk per cow per day	% fat.	Average live-weight per cow
Lot I. . .	30·2 pints	3·48	1086 lb.
Lot II. .	30·2 pints	3·46	1122 lb.

RESULTS FOR FIRST 5 WEEKS, June 19–July 23.

Lot I.	4 lb.	27·3 pints	3·37	8·71	− 17 lb.
Lot II.	None	27·7 pints	3·43	8·81	− 5 lb.

SECOND 5 WEEKS, July 24–Aug. 27.

Lot I.	8 lb.	22·5 pints	3·39	8·69	− 57 lb.
Lot II.	None	21·7 pints	3·52	8·77	− 14 lb.

GENERAL CONCLUSIONS.

House-fed Cows.

From the results obtained in the first and second sets of experiments (Experiments A, B, C, and D) the following general conclusions may be drawn:—

1. A heavy allowance of concentrated food, of not less than 12 lb. per cow per day, may cause an increase in the milk yield as compared with a more moderate allowance.

2. The increase thus caused will be in a great measure of a temporary character, and is much more marked early in the lactation period than it is as the period advances.

3. Although a heavy ration will produce more milk at first than a moderate ration, there is a limit beyond which the ration cannot be increased with profit.

4. An allowance of as much as 12 lb. per 1000 lb. live-weight per day may, as a rule, be regarded as excessive, having regard to profit.

5. When cows begin to fall off in their yield as the lactation period advances, an increase in the concentrated food does not check this falling off except temporarily; and conversely, a decrease in the concentrated food under similar conditions does not cause a more rapid falling off in the yield.

6. With regard to the butter-fat in milk, it is doubtful, provided the cows receive a sufficient amount of concentrated food to keep them in good condition, whether an additional amount in the ration has any appreciable influence in increasing the percentage. The same applies even in a greater degree to the "solids-not-fat."

7. The morning milk of an average lot of cows, even when well fed, may frequently be under the standard in butter-fat during the earlier part of the lactation period when the day interval between milkings is the shorter, and an augmented ration of concentrated food causes but little improvement in this respect.

8. A heavy ration causes a greater increase in the average live-weight of the cows than a moderate one, the gain being greatest towards the end of the lactation period, when the cows are falling off in yield.

9. The character of the cows has much more to do with determining the quantity and quality of the milk than the actual amount of concentrated food in the daily ration so long as the cows receive enough to keep them in a thriving condition, and it is a mistake to suppose that, once this limit is reached, an increase in the concentrated food results in a corresponding permanent increase and improvement in the milk. It may indeed have the opposite effect.

10. Finally, as the results obtained in these experiments indicate that a heavier ration of concentrated food may be employed with profit early in the lactation period than can be done as the period advances, it seems probable that the most economical method of feeding dairy cows, having regard only to the milk produced, would be to make the ration largely dependent upon the amount of milk the cows yield. In other words, the full ration should be given when the cows are in full milk, and as they fall off in yield the allowance should be

gradually curtailed until, at the end of the lactation period, it reaches the minimum necessary to keep the cows in good condition. It is difficult to say at present what quantity of concentrated food constitutes a full ration, further than that, having regard to profit, it is certain that it should not, on the average, reach as much as 12 lb. per 1000 lb. live-weight per day.

Cows on Pasture.

From the results of Experiments G and H on the influence of different quantities of concentrated food for cows on pasture the following general conclusions are drawn:—

1. The advantage of giving dairy cows which are out on grass during the summer months a supplementary ration of from 4 to 8 lb. of concentrated food, consisting of Bombay cake and maize meal, is exceedingly small as regards the yield of milk, provided the pasture is of average quality.
2. Any benefit derived from concentrated food so used is only shown towards the end of the season, when the pasture is beginning to get stale and the nights become cold.
3. It is doubtful, having regard to profit, whether any concentrated food of this description should be used at all on grass during the summer, if the pasture is of average quality, the season normal, and the cows in a healthy and thriving condition.
4. To increase the concentrated food as the season advances is not to be recommended, as it does not, except temporarily, cause an increase in the milk, or even check the fall in the yield, which always takes place as the lactation period advances.
5. As regards the quality of the milk, there does not appear to be any advantage whatever, on the average, in using on grass concentrated food of the kind employed in these experiments.
6. Concentrated food supplied to cows on grass does not necessarily cause an increase in the live-weight of the cows, even when it produces no effect on the milk yield.
7. These experiments confirm, on the whole, previous experiments carried out at Offerton, as regards the effect generally of an extra allowance of food on the quantity and quality of milk, and show that, on the average, provided the cows receive enough food to keep them in a thriving condition, there is no advantage, having regard to profit, in giving them more than this. Presumably, when cows are fed on fairly good grass in the summer, they do not require much additional artificial food, and when such is supplied, it is at a loss as far as the milk yield is concerned. Confirmation is also given to the conclusion previously arrived at, that no addition to the food could prevent, except temporarily, the falling-off in the milk yield as the lactation period advances.

POISONOUS BEANS.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

IN my report on Analyses made for Members during 1905 (Fifth Series, vol. xviii. p. 79), I commented shortly on a sample of poisonous bean-meal, described as prepared from Rangoon beans, which was sent to me by a member. It happened that serious outbreaks of poisoning of cattle occurred about the same time in various parts of Scotland, and some investigation was made into the origin and nature of the beans which were believed to be responsible for the trouble. The matter was one of widespread importance, and the Board of Agriculture also held an inquiry and published the results in their Journal (vol. xii. p. 742, and vol. xiii. p. 52). The chemistry of the subject was likewise investigated by Messrs R. R. Tatlock and R. T. Thomson, who published a paper "On the Presence and Detection of Cyanogen in Java, Burma, and Haricot Beans" in 'The Analyst' (vol. xxxi. p. 249).

When the outbreaks of poisoning first occurred, though they were traced to the use of certain beans, it was not known to what particular poison they were due. It was soon shown, however, that the poisoning was caused by hydrocyanic or prussic acid, that the beans which caused it yielded considerable quantities of this poison when soaked in water, and that these beans all came from Java.

The presence of a substance which yielded prussic acid was noticed in beans of the kidney type about 1900 by M. Bonamé, Director of the Agricultural Station at Mauritius. Professor Wyndham B. Dunstan of the Imperial Institute obtained samples of these beans from Mauritius, and thoroughly investigated them.[1] He showed that the prussic acid was yielded by a glucoside, which when the beans are moistened breaks up into prussic acid and other substances, under the influence of a ferment, known as an enzyme, which is present in the beans. He showed that the beans from Mauritius were capable of yielding considerable quantities of prussic acid in this way, and he named the glucoside which yields the prussic acid *Phaseolunatin*, as it was found in a variety of bean known as *Phaseolus lunatus*. He also showed that a very small amount of the same glucoside was to be found in Rangoon or Burma beans, which are largely imported into this country as food, and which are also a variety of *Phaseolus lunatus*.

Nevertheless, until the outbreaks of poisoning in 1905 and

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[1] Proceedings Royal Society, 1903, vol. lxxii. p. 285.

1906, it was not generally known to merchants, farmers, analysts, or veterinary surgeons that prussic acid poisoning might be caused by beans of the kidney or *Phaseolus* type. Even months after the presence of this glucoside in Java beans had been clearly shown, merchants were still of opinion that the poisoning was caused by some foreign poisonous seed, or other poisonous substance which was present accidentally among the beans, and not by a constituent of the beans themselves.

During 1905 there was a scarcity of beans, owing to a partial failure of the supply of Smyrna and other Mediterranean beans, and bean-meal rose to a high price. In consequence, merchants began to bring in beans from unusual sources. For many years past Rangoon or Burma beans have been used in very large quantities in this country without any evil results having been reported. By the middle of 1905 small lots of the somewhat similar beans from Java began to be imported from Antwerp. These beans did not come direct into Britain, but were brought to Europe by Dutch merchants, and then brought to Britain from Antwerp. The small lots which were brought in at first were disposed of either mixed with other meals or pure, without any evil results being noticed or any suspicion being aroused. Consequently, large consignments of hundreds of tons of these beans were brought into Glasgow in December, and shortly afterwards the poisoning cases began. It is stated that about this time, but before any poisoning cases were reported in Scotland, rumours were heard from Antwerp of poisoning cases having arisen there from workmen eating the beans. It is also stated that the merchants who first imported these beans into Scotland were warned by the Dutch importers that the beans required to be boiled twice in water and the water poured off. These warnings, however, appear to have been disregarded.

When I began to make inquiries about these beans, I was informed by certain large dealers that poisoning cases only occurred with those parcels of beans which were ground and put into consumption without having been washed. I therefore made arrangements to see the process of washing carried out, and to obtain samples of the same beans before and after washing. The process of washing removes much dirt from the surface of the beans, and also washes away many twigs, pieces of pod, and other light vegetable substances; but it does not alter in any essential way the beans themselves, and certainly cannot wash away any appreciable quantity of the poison. The beans were in the washing water, which was at a temperature of about 100° Fahr., for just about two minutes. The samples taken before and after washing yielded practically the same amount of prussic acid.

I obtained clear evidence that for every case of poisoning which occurred many tons of the beans were consumed without any evil effects being noticed. A quantity of beans taken from the same parcel which had caused the deaths of a number of cattle was fed to a dairy herd on another farm for several weeks, but not a case of poisoning occurred, and I was informed that no evil results at all were noticed. It was therefore strongly asserted that some of the bags of beans must contain poisonous seeds other than beans, and that the sporadic nature of the outbreaks was to be explained by the presence of these. In order to satisfy myself on this point, I examined samples of practically all the consignments of beans which came into Glasgow in the latter part of 1905. Through the kindness of certain of the merchants, I was enabled to go through many bags of beans belonging to the same parcel as those which had caused some of the worst cases of poisoning. No seed other than the beans themselves was found; and with the exception of pieces of pod leaf and twig, no foreign vegetable matters were present. There does not appear to be any reason to suppose that the poisoning was caused by anything but the beans themselves. Some other explanation must be sought for the fact that the beans did not in every case cause poisoning.

Java beans are of all colours—white, grey, red, brown, purple, mottled, and black. The colour varies greatly in the same consignment. In one bag black will be the prevailing colour, in another white; but, generally speaking, the majority of the beans are red, brown, and mottled. It is stated by Professor Dunstan that Burma beans and Java beans are both *Phaseolus lunatus*, but that the Burma beans represent a cultivated variety, while the Java beans are uncultivated. He also states that the wild beans contain a large amount of the cyanogenetic or prussic-acid-yielding glucoside, while the cultivated varieties yield very little.

Some samples of Burma or Rangoon beans which I examined consisted of mottled, pink. or red beans, which are rather smaller than Java beans. These are known in commerce as red Burma beans. Two samples of these which I examined yielded 0·012 and 0·008 per cent of hydrocyanic acid respectively. The samples of Java beans which I tested yielded from 0·081 to 0·216 per cent. The Java beans, therefore, contain enormously greater quantities of prussic acid than the Burma beans. At the same time the Burma beans, thousands of tons of which have been consumed in Scotland without injury being reported, are by no means free from the poison.

I endeavoured to cultivate samples of Java and Burma beans. My early attempts were made in the open and in a cool greenhouse. These attempts were failures. Trials were then made for me by Messrs Ben Reid & Co., Limited, Aberdeen, who grew them successfully in a greenhouse with plenty of heat. These plants were not started, however, till late in the season; and though they grew several feet high, they did not flower. In appearance and habit the plants closely resemble ordinary runner beans. The Java and Burma bean plants were indistinguishable from one another.

A number of samples of Java beans from different consignments and of different colours were tested for hydrocyanic acid. If the ground beans are merely moistened and allowed to stand for some time in a closed vessel the characteristic smell of hydrocyanic acid is quite distinct. I found no difficulty in detecting it in this way in samples either of Java or Burma beans. On the other hand, no odour of hydrocyanic acid can be felt if English, Smyrna, or Morocco beans are tested in this way.

In order to estimate the amount of hydrocyanic acid, Professor Dunstan recommends that the glucoside should be extracted with alcohol, broken up by mineral acid, and the prussic acid distilled off and estimated. I found it very much simpler and equally effective to soak the beans, ground to a fine meal, in water from twelve to twenty-four hours, and then directly distil off the prussic acid in the presence of mineral acid. All my estimations of the quantity of prussic acid were made in this way. As already stated, the lowest amount of the poison found in any sample was 0·081 per cent, while one sample contained as much as 0·216 per cent. About 2½ ounces of the former sample, or 1 ounce of the latter, would supply a dose of hydrocyanic acid sufficient to kill a man. Samples of English and Smyrna beans which were treated in the same way as the above yielded no hydrocyanic acid. English and Smyrna beans do not belong to the same species at all as Java and Burma beans. They are varieties of *Vicia faba*, or broad beans, while the Java and Burma beans are varieties of the haricot or kidney bean family.

It has been stated by Professor Dunstan that among beans of *Phaseolus lunatus* those of white colour do not yield prussic acid, and that, generally speaking, the darker coloured beans yield more of the acid than lighter coloured ones. I did not find this to be the case. A sample which consisted entirely of white or light-coloured beans yielded 0·143 per cent of hydrocyanic acid, while another which consisted largely of black beans yielded 0·088 per cent. The sample which yielded the largest percentage of acid, 0·216 per cent, consisted largely of dark-brown, purple, and mottled beans. Similar results were found by Tatlock and Thomson. All the different colours of Java beans appear to yield hydrocyanic acid freely, and one cannot state that one colour yields more than another.[1]

Analyses made since the above was written confirm the presence of prussic acid in White Java and Rangoon Beans.

The conventional food analysis of these beans does not at all indicate their poisonous nature. No doubt, they were analysed in the ordinary way when first imported, but it was not till specially tested for hydrocyanic acid that anything as to their poisonous nature was revealed. The ordinary analysis, however, indicates that they are not nearly so rich in albuminoids as beans of the broad-bean type. The following table gives analyses of samples of beans of various kinds which were made in my laboratory in connection with this inquiry.

COMPOSITION OF BEANS.

	ENGLISH BEANS	SMYRNA BEANS.	JAVA BEANS		RED BURMA BEANS
			No. 1.	No. 2.	
	per cent.	per cent	per cent.	per cent	per cent.
Moisture	5·96	3·78	12·68	13·26	11·82
Oil	1·78	1·22	1·03	1·04	1·35
Albuminoids [1]	28·50	29·43	18·81	19·56	21·13
Soluble carbohydrates (by difference)	56·41	56·82	59·13	58·39	58·43
Fibre	4·21	5·67	4·18	3·93	3·86
Ash [2]	3·14	3·08	4·17	3·82	3·41
	100·00	100·00	100·00	100·00	100·00
Containing—					
[1] Nitrogen	4·56	4·71	3·01	3·13	3·38
[2] Silicious matter	0·45	0·07	0·02	0·17	0·22
Hydrocyanic acid	absent	absent	0·143	0·204	0·0124

It is said that poisonous cassava, which, like Java beans, owes its poisonous nature to the presence of a cyanogenetic glucoside, can be made safe to eat by boiling it in water and pouring off the water. So in the case of these beans the original importers are said to have been warned that they should be boiled twice in water and the water poured away. In order to test this I boiled some whole beans, from sample No. 1 in the table above, in water, for half an hour. The water was then poured off and the beans washed. The water and washings yielded hydrocyanic acid equal to 0·098 per cent of the original weight of the beans. More water was then added, and the beans again boiled for half an hour. The water was again poured off and the beans washed with boiling water. This time the water and washings yielded hydrocyanic acid equal to 0·043 per cent,—or the total from the two boilings was 0·141 per cent. As the beans were originally found to contain 0·143 per cent, practically all the hydrocyanic acid was removed by boiling twice.

In order to confirm this, the beans themselves were then tested for hydrocyanic acid, but only small traces were found. In the water in which the beans had been boiled free hydrocyanic acid was not found, but only the glucoside which yielded the acid on treatment. It is only when the beans are soaked in cold water that the prussic acid is developed. If boiled in water, the enzyme is destroyed and the acid is not developed, but the boiling water extracts the glucoside itself.

It may be concluded, then, that if these beans are thoroughly boiled in water, and the water poured off, the poison will be largely removed; and if the boiling be repeated twice, the beans will be rendered harmless.

In other experiments it was shown that if the beans or bean-meal were soaked in boiling water, prussic acid was not developed, even when the material was cooled and allowed to stand. This is due to the fact that the boiling water destroys the enzyme in the beans, and without the enzyme the glucoside is not broken up. That the glucoside was still there, and could still liberate hydrocyanic acid, was shown by adding some sulphuric acid and boiling some of the material. The sulphuric acid then attacked the glucoside and liberated hydrocyanic acid.

It has already been mentioned that in many cases Java bean-meal was fed to animals without causing any symptoms of poisoning. We do not know that the glucoside itself is poisonous apart from the hydrocyanic acid which it gives rise to. Hydrocyanic acid does not exist ready formed in the beans, but is only formed by the action of the enzyme, or by boiling with a mineral acid. If, therefore, the enzyme is destroyed by heat or otherwise, hydrocyanic acid will not be produced in the beans, and poisoning may not occur. At the same time, the danger of using these beans as food is so great that in the present state of our knowledge they should be entirely avoided. Though it has not been shown that any extensive outbreaks of poisoning have been caused by Burma or Rangoon beans, they also contain the poison, and it is to be supposed that their action is to some extent injurious. In the present state of uncertainty, therefore, and until clear proof is obtained that the glucoside present in these beans does not render them in any way harmful, they should be avoided.

Finally, what has taken place in the case of these beans illustrates the necessity for the Board of Agriculture, or some other authority, having powers to exercise supervision over new products introduced into the country as feeding-stuffs for cattle, and to make inquiries and investigations into their nature and origin, and if it is found necessary, to prohibit their sale altogether.

ANALYSES FOR MEMBERS DURING 1906.

By JAMES HENDRICK, B.Sc., F.I.C., Chemist to the Society.

DURING the year 85 fertilisers, 34 feeding-stuffs, and 30 miscellaneous samples were sent for analysis by members of the Society. In addition, I received a number of communications asking for information on a variety of subjects.

In the case of the great majority of the samples submitted very little information is sent, so that it is impossible for me to tell whether the sample is up to any guarantee given, or is worth the price charged for it. The majority of the members who send samples probably wish the analysis merely for their own private information. Also they deal, generally speaking, with the better class of merchants, and are well able to tell for themselves if they are grossly overcharged.

As the Directors desire that the chemist should be able to give as much information and help as possible to those members who send samples for analysis, and as they also desire to gain information as to the nature and quality of manures, feeding-stuffs, and other articles sold to the members, a circular was prepared at their request, and copies of this are now sent to all members who submit samples for analysis. The circular asks members to inform the chemist, either when they submit the sample or after they receive the certificate of analysis, what was the guarantee, if any, under which the goods were sold, what was the price at which they were sold, and, generally, to give any information likely to be of assistance to the chemist in forming an opinion whether the article sampled was good of its kind, up to the guarantee on which it was sold, and worth the price charged for it. The circular also states that the Directors are anxious to take any steps in their power to expose the vendors of fraudulent and inferior goods, and look to the members to assist them in doing so by furnishing the information asked for above.

Ground Lime.

Last year I called attention to the inferior nature of much of the ground lime on the market, as indicated by the samples which pass through my hands. Though there is a distinct improvement in 1906 as compared with 1905, the majority of the samples received are not yet what they should be. It is generally held that a good sample of ground lime should contain at least 70 per cent of alkaline lime—that is, of lime in the forms of oxide and hydrate of lime. Of 18 samples submitted for analysis by members only 5 contained over 70 per cent of alkaline lime, 7 contained between 60 and 70 per cent, 5 contained between 50 and 60 per cent, and one contained only 36·2 per cent. As a rule, either no guarantee was given with these limes, or I was not informed of the guarantee given. In every case in which I was informed, the lime fell seriously below the guarantee. One sample of ordinary lime shells was submitted for analysis and found to contain over 74 per cent of alkaline lime.

In spite of the representation of the Directors to the Board of Agriculture that lime, when sold as a fertiliser of the soil, should be included under the Fertilisers and Feeding Stuffs Act, as manures containing nitrogen, phosphates, and potash are, no special provision has been made for it under the new Act which came into force on January 1 of the present year. It is the more necessary, therefore, that those farmers who purchase ground lime should protect themselves by insisting on a guarantee of quality with each purchase, and by having samples analysed from time to time.

Fertilisers.

There were few of these which call for any special remark. One sample sold as pure dissolved bones consisted practically of a mixture of 40 per cent dissolved bones of ordinary quality, with 60 per cent of undissolved bones. The sample had the appearance of having been made by mixing undissolved bone meal with dissolved bones.

The cheapest potash manure per unit of potash is the substance somewhat unfortunately named potash manure salt, or 30 per cent potash salt. This article appears to be frequently invoiced and sold as sulphate of potash. In reality it consists of a low-grade muriate of potash. It is a pity it has not been given a name to indicate this fact. Sulphate of potash is the dearest potash manure per unit of potash, and it is preferred by many farmers—especially for potato growing—over all other potash compounds. Thirty per cent potash salt should not be sold as sulphate of potash, for it contains practically no sulphate at all, and has not the characteristic effects of sulphate. Those farmers who prefer sulphate of potash as a manure should see that the cheaper 30 per cent potash salt is not palmed off on them as sulphate.

One sample of turnip manure, of the price of which I was informed, was only worth about half the price which was charged for it.

Feeding Stuffs.

Five samples out of the 34 submitted were unsatisfactory in one way or another. A sample sent as linseed-cake contained a considerable admixture of starchy substances. One sample of composite cake was below the guarantee given with it, and another was of very poor quality. Under the new Fertilisers and Feeding Stuffs Act the vendors of artificially compounded foods are required to give a guarantee in the invoice of the oil and albuminoids present. These are the two most important and valuable constituents of feeding-stuffs. Unless there is a considerable percentage of these in a composite cake, it is not worth buying.

Home-grown oats of good quality will contain 6 to 7 per cent oil and 12 to 15 per cent albuminoids, and are in every other way a feeding-stuff of excellent quality. Money is thrown away in buying mixed cake at a price much higher than that at which home-grown oats are valued, unless it contains oil and albuminoids much in excess of those naturally contained in the corn. On the other hand, mixed cakes of excellent quality can be made—little, if any, inferior to linseed-cake in oil albuminoids and general feeding value—at a price considerably below that of high-class linseed-cake. It is particularly in the case of mixed or composite cakes that farmers require to look carefully into the composition and analysis; for some of those on the market are of little value, and are not worth the price charged for them.

A sample sold as maize meal was found to contain about 3 per cent of sawdust. Whether this had been accidentally or fraudulently mixed was not disclosed. A sample forwarded to me as ground oats was found to contain about 20 per cent of other cereals.

Three samples of turnips, one sample of cabbage, and one sample of sugar-beet are included under the feeding-stuffs.

SHEEP ON ARABLE FARMS.

By JAMES WYLLIE, Pathhead, Cockburnspath.

IN this paper, prepared primarily for students of agriculture, I do not insist upon any hard-and-fast system. I merely wish to give an account of particulars of management which I have come to consider the most profitable under the circumstances in which I am placed.

I occupy two farms in the adjoining counties of Berwick and East Lothian. As the one differs somewhat in character from the other, the management of the sheep stock on the two farms requires to be somewhat different, in order to suit, as far as possible, the special circumstances of each. One of the two farms, that in Berwickshire, is all arable and of fairly good soil. Part of the grass-land is allowed to lie only one year, and part for two years.

Sheep Stock on the Berwickshire Farm.

On this farm we keep only what is called a "flying stock" of sheep—that is to say, the sheep, whether bred on the place or bought in, are kept upon the farm for only one year or less.

In the month of September the ewe sales begin, when we lay in as many half-bred (Leicester-Cheviot) ewes as we calculate we may have grass for, so as they, with their lambs, may be sold fat next spring and summer. These ewes have already had three crops of lambs, at which age the store or breeding farmers usually dispose of them.

Four-crop ewes can be had at a slightly easier price, but as a rule the loss amongst that class is considerably heavier, and they are more difficult to fatten. I therefore prefer to buy only three-crop ewes.

Besides the half-bred ewes, there are other breeds to be had in our local markets at that time and later on, which are bought by farmers in the district, such as the pure Cheviot ewe, which is usually sold by the store farmer after four crops, also a comparatively few grey-faced (Leicester-blackfaced), which are for the most part four-crop ewes.

There are also blackfaced ewes, often of uncertain age, and sometimes a few lots of Oxford-Down and Suffolks. But, as I have already indicated, my experience has been very much confined to the half-bred ewe.

After reserving a certain proportion of the turnip crop for these bought-in ewes and for feeding cattle, we require to purchase more sheep to consume what extent of turnip we calculate we may still have available. For this purpose we lay in lambs, which we hope to buy at considerably less money than we obtained for the fat lambs sold. Special sales for lambs begin about the end of July, and continue from time to time for several months. We usually buy either the three-part-bred lambs shown at these sales—that is, lambs bred by a pure Border Leicester tup from a half-bred ewe—or lambs bred by an Oxford-Down or Suffolk tup from the same class of ewe. The two last breeds are known as Oxford-Down and Suffolk crosses respectively. Thus on the Berwickshire farm we have only a "flying stock," consisting partly of bought-in three-crop ewes whose fourth crop of lambs are sold fat, and partly of bought-in lambs to feed on turnip.

Lambs suffering from "Orf."

It sometimes happens that a lot of lambs will arrive home from the market with a few of them showing symptoms of what is locally known as "orf." This is a disease of the skin showing raw blotches, chiefly affecting the feet about the coronet of the hoof, also the legs, generally extending to about the knee, and sometimes a few blotches may show on the face. If this trouble is not quickly noticed and treated at once, it may cause infinite trouble as well as serious loss of condition in those affected, and as it seems to be very infectious, any neglect at the early stage may end in nearly the whole lot becoming infected.

On noticing the first symptoms we at once walk the animals through a wooden trough, some 14 to 16 feet long, with strong arsenic water in it to the depth of 4 or 5 inches. This may require to be repeated once or twice at intervals of two or three days. This trough should be covered with a lockfast lid, as accidents have occurred through cattle getting at the liquid. If applied in time this treatment generally checks the trouble.

We have always at hand a quantity of a saturated solution of arsenic, which we make by boiling, for twenty minutes or so, equal quantities of arsenic and washing-soda in as little water as the mixture will dissolve in—say, 7 lb. arsenic and 7 lb. washing-soda to 13 galls. water. The boiling should be done in an open or airy place, so that the fumes of arsenic may not hurt the man stirring the material while it is boiling. In use we mix 1 measure of the above to 5 measures of water.

Sheep Stock on the East Lothian Farm.

The other farm referred to is situated in East Lothian, and differs from the first inasmuch as it is somewhat higher lying and of rather poorer soil. This farm includes a considerable proportion of permanent pasture,—some of this high-lying and comparatively poor, and some of it lower down and of better quality. On this farm we use the same class of sheep stock—the half-bred ewe, which we mate with a pure-bred Leicester tup, or sometimes with a pure Oxford-Down.

The Oxford-Down tups breed very good lambs for hogging—*i.e.*, for feeding off on turnip before they are a year old; at the same time it is generally allowed that breeding from these tups is harder upon the ewes than is breeding from the pure Leicester tup, causing more weakening of constitution, and perhaps a slightly higher percentage of casualties at lambing-time. On the whole, I cannot say confidently, although I have used the Oxford against the Leicester for a number of years, that the Oxford is really more profitable than a well-bred Leicester tup, the progeny of which latter comes always well to the front whether as fat lambs or fat hoggets for the early market.

As this East Lothian farm includes a considerable proportion of permanent grass, as well as the usual rotation grasses of two years, and sometimes a field or two of three years old, we modify the management of the ewe stock to suit the circumstances so as to obtain the best advantage. For the older grasses we keep a stock of ewes of what is known as "regular ages," and this to the extent of half of the whole ewe stock on the farm. This half consists of—one-third bought-in gimmers to have their first crop of lambs; one-third young ewes—last year's gimmers—to have their second lamb; and one-third ewes—last year's young ewes—to have their third lamb. The progeny of this half of the ewe stock is mostly kept on for feeding, as hoggs, on turnip. The second half of the ewe stock is made up of—first, our own three-crop ewes, which are now transferred to the second half of the stock, in which they form about one-third of the necessary number; and, second, double this proportion of ewes of the same age, which we buy from the store farmers who, as a rule, cast their ewes after the third crop. These old ewes are all put early to the tup, so as to have their fourth crop early for the fat market. In giving the above proportions I have not taken into account loss from death. To meet this, when laying in young stock we usually add a few extra gimmers.

The advantages of the above system for this, the East Lothian farm, I shall explain when I come to details of management.

Crops Grown for Food.

Having thus made a note of the nature of the holdings, and indicated the varieties of sheep stock we consider most suitable for each of them, I think it may be well, before going into details about other matters, to refer to the food found suitable for such a stock, and to touch upon its preparation. The home-grown food may be briefly set down as grass and turnips. A word may be introduced here as to the various kinds of grasses and turnips we have found most suitable.

Grass Seed Mixtures.—Not so many years ago it was a common practice amongst farmers in this district, when putting down a field to pasture, to use from a bushel to a bushel and a half of the ryegrasses—perennial and Italian—with 10 or 12 lb.

of clovers to the acre. With this mixture we seldom had good pasture. The clovers, especially the red, very seldom grew well along with such a large quantity of ryegrass; very often they disappeared altogether, and after the early flush in spring the ryegrass shot up into hard bare culms, leaving a very open-bottomed pasture. Further, the ripening of so much ryegrass seed was often dangerous to stock, because it tended to produce founder in sheep and stomach staggers in horses. I am aware, however, that this description of the behaviour of ryegrass does not strictly apply in the case of more humid climates and softer soils. Since giving up the too free use of ryegrass I have been much more successful in getting close-bottomed pasture with much more clover in it. For a single season's pasture we have obtained very fine clover by using as seed a mixture composed of 12 lb. Italian ryegrass, 14 lb. timothy grass, and 10 lb. of red clover, the cost being about 16s. per acre. This mixture, however, is not quite suitable for more than one year's grass, as when allowed to lie for a second season the clover will have almost entirely disappeared. Yet the timothy will have thickened up remarkably, and it, with the Italian grass, will still make a fairly good pasture.

For two and three years' lea we have had fine clovery pasture —even in the third year—from a mixture of 12 lb. of Italian ryegrass, 6 lb. perennial ryegrass, 14 lb. timothy, 4 lb. red clover, 4 lb. alsike, 3 lb. white, and 2 lb. trefoil or yellow clover. Sowing with this mixture may cost from 17s. 6d. to 20s. per acre. We use no cocksfoot, or if occasionally we use it on a poor field, we do so only to the extent of 1 lb. or 2 lb. to the acre. For a year or two we used it largely, but found that we could not make lambs fat upon it. I cannot say with certainty why clovers do not succeed with a thick seeding of ryegrass here, but think it may be because ryegrass is a quick-growing plant and a gross feeder, monopolising, as it were, the ready nutriment and starving out the tender clover plants. With timothy the clover may get a better chance, as it also is a very tender plant when young. This, however, is only a suggestion. There may be such a thing as "clover sickness," but I suspect *clover starvation* might often be a truer term for it.

With mixtures of grasses such as the above comparatively few seed-bearing culms are allowed to mature, because sheep eat the Italian ryegrass more readily than perennial, and generally crop the timothy very close. Consequently the pasture keeps a green, fresh appearance almost all the year round, and the risk of trouble from ripe ryegrass seed already referred to is reduced. These mixtures, be it remarked, are better suited for pasture than for hay. I may here say that I have frequently tried meadow fescue, but seldom could find much benefit from it in this dry climate and soil, although I have noticed it growing freely in a moister soil and climate.

The Turnip Crop.—The next consideration is the turnip crop. This is put in in the usual manner, but it is of importance for us to consider what may be the most suitable varieties and quantities of each variety to sow, so as to suit the lambs especially. This class of stock is easily spoiled, or even killed, if put upon a wrong class of food, such as foul grass or unripe turnip of the harder and later-ripening sorts. For hoggs, then (*i.e.*, lambs after being put upon the turnip-break), we sow "Graystone" turnip sufficient to feed them on the foggage and seeds, and to keep them afterwards for, say, a month on the turnip-break. We also sow a considerable breadth of green-top white turnip, so as to have that sort for sheep, and also for cattle, after the Graystones are finished. About New Year time these green-top whites are usually finished, and both sheep and cattle are then put upon swedes.

Turnips v. *Cabbages.*—Cabbages are often grown for lambs, and come in most usefully for feeding to them upon foggage and seeds. Our difficulty with cabbages is the finding of time to plant, as where a considerable acreage of potatoes is grown the planting of these usually requires all our available hands; moreover, in this dry climate we do not always succeed in securing a full crop, as the plants are often long in starting to grow, and sometimes many of them die out altogether.

We find early-sown Graystone turnip an excellent substitute for cabbages, as that sort can be safely fed to lambs on the grass even when quite young and only about half grown. This can be done without so much waste of food as might at first sight appear, because when the turnips are so young and tender the lambs eat both shaw and bulb; whereas, later on, when the bulb and shaw are more mature, the top is almost entirely neglected. This class of turnip, though soft, is by no means devoid of feeding properties. Occasionally, with the aid of cake, we send our first draw of three-part-bred hoggs away fat directly off that variety, and frequently off green-top white.

Management on the Berwickshire Farm.

Some details of management of the sheep stock may now be given, and we shall begin with the ewes. These for the Berwickshire farm we generally buy at the September sales as what are known as "three-crop" ewes. The number required varies according to the appearance and acreage of the grass. If the grass is good we would put on about two ewes to the acre, exclusive of the acreage put aside for hay. On the arrival of the ewes on the farm they are put upon the older grass fields, as the foggage and seeds or young grass will have been already stocked with lambs, or been reserved for them.

Attention to Feet.—Should any of the ewes show signs of lameness at this time, they ought to be separated from the sound ones and attended to almost daily till sound. If the lameness should be seen in any considerable number of them, it will in all probability be caused by what the shepherds call "scad" (scald?) This is a watery rawness between the hoofs, caused perhaps by a long walk to, and it may be from, the market. If not taken in time this "scad" is apt to assume a form of foot-rot. In this case we treat the whole flock exactly as in the case of lambs suffering from "orf," already described. Afterwards any individual case of lameness is treated on the spot, as soon as noticed, by the application of some foot-rot ointment, which the shepherd generally carries with him.

Should ewes be allowed to go wrong in the feet from feeding on soft or foul ground when they are heavy with lamb, it is almost impossible to get them sound again, and neither they nor their lambs are likely to come to much good. The shepherd should see that the cake-boxes are shifted frequently, and that the turnips are put upon clean ground daily. As our object is to have both the ewes and their lambs fat at the same time, so that both ewe and lamb may go away together, we must be careful to do well to them all the time we have them on the farm.

Flushing Ewes.—Besides having the ewe in good condition at lambing-time, another object is to get as good a crop of lambs as possible. A good rough pasture conduces as much as anything to this. If not so rough as one would like, some early turnip carted out to the field, beginning some little time before the tups are put to them, will have a good effect. We do not like to put very fat ewes to the tup, as we find that ewes in improving condition at that time generally twin better.

Tupping.—As early lambs are here an object, the tup—Border Leicester or Oxford-Down—is put to the ewes a little before or about the middle of September, allowing, say, forty-five or fifty to the tup. Here it is advisable to keep each tup, with his special lot of ewes, separate from the other tups. This, however, can seldom be done, but it is well to have as few tups together as possible.

As the shepherd marks the breast of the tups with "keel," the ewes get marked on being served, and thus the shepherd is enabled to mark, or "smott," on some part of the body, all the first tupped ewes up to a certain date; then, on a different part of the body, all the next earliest, and perhaps a third lot the same way later still.

Lambing-time.—Then when lambing-time comes, which will be about five months from tupping, the shepherd draws the first lambing ewes into the lambing park and enclosure, and so on with the respective lots marked as above for later lambing. This tends to prevent crowding at night in the lambing enclosure, as by the time the second or third lot is brought in for lambing, many of the earlier lambed ewes will be out with their lambs on some other field.

Lambing Pens.—Some farms are provided with a permanent lambing-shed and enclosure. Personally, however, I prefer a temporary arrangement as being more healthy. I think it best to erect the enclosure upon fresh ground yearly, so as to avoid any risk of trouble from former contamination.

The enclosure is formed by erecting double wire sheep-nets with straw fixed between them for shelter, or by hurdles with straw laced upon them. These same sort of hurdles and straw are used for forming the back and roof of small sheds, say at either end of the enclosure, which sheds are subdivided into compartments by small hurdles kept for the purpose. These small compartments are useful, especially at night, as when a considerable number of ewes happen to lamb about the same time, each ewe with her lambs can be kept separate till morning, so that confusion amongst so many young lambs may be avoided. The shorter time, however, ewes and lambs require confinement the better. Those small sheds are also useful for confining a ewe in when a strange lamb is being put upon her.

Winter Feeding.—After tupping-time, as the winter season advances and as grass becomes less plentiful, more liberal hand-feeding will become necessary. More turnips will be required, but these must be supplied with discretion. If full turnip be allowed them, the ewes often come to the lambing soft and feeble, producing large-bellied soft lambs, and often leading to heavy losses both in ewes and lambs.

As a rule, during the winter time we allow a cart-load of turnips to the hundred ewes. The cart-load will weigh about twelve or thirteen cwt. These turnips are often brought direct from the field, sometimes untopped. We also allow an increasing quantity of cotton-cake—undecorticated—up to a pound each, or over if necessary. About lambing-time we often allow about a quarter of a pound of a mixture of oats and bran in addition.

We generally begin to use swedes for the ewes about the New Year, as we consider they afterwards do quite as well upon them, if they have been accustomed to them before lambing, as upon softer turnip.

During a storm it is of importance that ewes in lamb should not be required to consume many frozen turnips. They should then be well supplied with hay, and perhaps with some dried grains or bran, in addition to the cotton-cake, because, if confined to their usual quantity of turnip in frost, they may not only lose condition, but some may cast poor or even dead lambs in consequence. Should a sufficient number of hay-racks not be available, the hay may be folded into an ordinary string sheep-net and suspended from net-stobs.

Feeding Ewes and Lambs.—As soon as the lambs are well upon their feet they are removed, along with their mothers, from the lambing park to the pasture fields, where hurdles laced with straw are often erected for shelter; but in the case of extra severe storms these shelters are sometimes insufficient, and the shepherd requires then to remove the ewes and lambs to such better shelter as may be available. Those lambs which are likely to fatten most quickly are generally selected for the earliest and best young grass pasture, as in the early season a comparatively small lamb, weighing 55 to 60 lb. live-weight, if of fine quality, will sometimes bring the highest price of the season; whereas those which come forward to quality later require to weigh heavier and heavier as the season advances, and even then the price per head generally becomes smaller.

As it is sometimes dangerous to feed rough undecorticated cotton-cake to very young animals, we try to get over this difficulty in as simple a manner as possible. We break the cotton-cake into somewhat larger pieces than usual (and it is surprising how large a piece an old ewe will tackle), and when the lambs begin to come about the cake-boxes, we mix with the larger broken cotton-cake a proportion of pure linseed-cake broken to about the size of peas and beans. The ewes, having been accustomed to cotton-cake, seem to prefer it to linseed-cake, at any rate for a considerable time; and as the lambs cannot manage the large pieces of cotton-cake they naturally take to the smaller pieces of linseed. Of course this is by no means a perfect separation of the foods, but it tends to such, and practically it seems to answer very well.

As soon as we get as many ewes and lambs sold off as enables us to relieve a field of pasture, we top-dress it and take a late crop of hay from it. Although the crop may not be very heavy, the hay comes in very usefully for sheep-feeding during winter, and the field adds to our acreage of clean foggage for newly-bought-in lambs.

Management on the East Lothian Farm.

Regarding the ewes of the East Lothian farm, where half the number is composed of old ewes having their fourth crop, I may say shortly that those old ewes are managed on the same lines as the old ewes on the Berwickshire farm. The other half of the stock, however, being composed of ewes having their first, second, and third crop, is managed somewhat differently. They receive no hand-feeding except their allowance of turnip, care being taken to see that they have a sufficient roughness of pasture. Should the pasture, however, become too bare to keep them in fair healthy condition, we do not then hesitate to allow them a proportion of short food. Although some flock-masters consider it bad management to feed cake or meals to keeping ewes, I have not found any harm follow, and consider it better to bring them to the lambing strong and able than to allow them to become lean and feeble. These younger ewes, with their lambs, are put upon the older pastures. The lambs of these ewes are weaned about the first or second week of August, and are kept on and sold off turnip as fat hoggs.

The three-crop ewes have their third crop taken from them sometimes about the middle of July, because that age is cast so as to have early lambs next year for selling fat, and early weaning conduces towards early tupping.

Early Disposal of Lambs.—By the plan of having the other half of the ewe flock on this farm composed of old ewes having their fourth crop, and feeding both ewes and lambs fat, it will be noticed that we get a considerable proportion disposed of early. The first draw generally takes place about the middle of April; we then continue drawing as the lambs come to sufficient weight and quality, from that time onward till about the beginning of July, when all of these four-crop ewes and their lambs will have been cleared off the farm, with the exception, perhaps, of a few unthrifty ones; but, indeed, we often dispose of those also, because if they are not fat by that time they ought to have been, and are not likely to pay for further keep. It will be noticed that, but for getting quit of so many ewes and lambs early, we could not keep such a heavy head of ewes. It is by this early selling that we are constantly making room on the pasture for the later lambs as they come forward to size and require more food.

Growing Hay for the Flock.—As we grow no hay for sale on this farm, we reserve the whole of the young grasses for fat lambs, and take hay for our own use from a field of second or even third year's grass. We usually try to save one field of second year's grass for hay untouched by sheep, but in a backward spring have sometimes to allow the ewes and lambs the run of it for a few weeks. In a good grass year this is unnecessary, and we are often able to let another field away to hay after fat ewes and lambs have been sold off it. Of course this hay will be later and shorter than usual, but, if top-dressed as soon as possible, it is often surprising what weight of hay is secured, as it often bulks well if thickly planted with timothy grass.

Management of Lambs and Hoggs.—We now come to the management of lambs bought in, or kept over, and fed as hoggs on turnip. About the end of July, when store lambs begin to come into the market, we begin to calculate what acreage of foggage we may have, also how seeds are likely to turn out after harvest, and what other clean pasture—*i.e.*, pasture on which no stock has been upon for a considerable time—may be available. We then begin to buy in lambs accordingly, taking care not to overstock.

I would like to mention here that, in my opinion, there is no period in the life of a young sheep upon which its future well-doing or otherwise depends so much as upon this, the time between weaning and folding upon turnip. It is evident that the depriving a lamb of its mother's milk must be trying to it, so that to keep it in a steadily improving state at that time it must be carefully attended to and liberally fed. It is therefore of the greatest importance that it should be put upon clean fresh pasture, such as foggage after hay. I have known good lambs spoiled, almost for their short lifetime, by being put upon "tathy" pasture—*i.e*, pasture showing many dark luxuriant spots from the droppings of stock recently pastured upon it. In such a case the lambs soon begin to "rush," and some to die, and the evil effects are not soon got rid of, even by a change on to turnip, as sometimes a number will continue unthrifty, and deaths may occur much too frequently all the winter. By inattention to this point, or by insufficient food of even good quality, a couple of months' feeding may easily be lost, as the lamb may lose condition for one month, and it may require quite another month to recover its former condition.

We do not, therefore, buy more three-part-bred lambs than we calculate we can keep well upon such clean grass as we have, and we begin at once with what the shepherds call "box meat." If the lambs have been accustomed to the boxes along with their mothers, there will be no difficulty in getting them to take to them. If, however, they have not been accustomed to feed from boxes, I find they will take to them very soon if supplied with dried grains, or a mixture of grains and other foods.

If, from want of suitable pasture, we have been unable to lay in as many three-part-bred lambs as we require for turnip, we may still have an opportunity of laying in more lambs about harvest time, as the prospect of more food of a suitable sort approaches. In this case we often lay in a younger class, such as half-bred Caithness, or other such lambs. No doubt these will require to be kept on for a considerable time after the first lot of three-part-bred lambs has been disposed of in the fat market.

As a rule, three-part-bred hoggs bring the best price per pound, if fat, at about 120 to 130 lb. live-weight. When kept on longer, the extra weight gained is often counterbalanced by the poorer price they bring per pound. Half-bred or cross hoggs, on the other hand, can be kept on to considerably heavier weights, and still bring full prices per pound.

After harvest, if the young grasses amongst the stubbles are good, we allow the lambs to have a run upon them, and continue to cart out cabbages, so that the pasture may not become too bare.

Hoggs on Turnips.—Should there be no cabbages, we give instead early Graystone turnip, even although they should be by no means full grown. We find these soft Graystone turnip with the shaw or top wholesome food for lambs even when unripe; whereas green-top yellow turnip, when unripe, are unsafe, and often cause a high percentage of deaths. When the foggage and seeds are sufficiently eaten down we fold the lambs upon the turnip-break, beginning with the Graystone variety. After these are consumed the lambs are moved on to green-top white, and after that on to swedes.

We sometimes find that we have a proportion of the three-part-bred hoggs fat and ready for the market even while still upon the Graystone, and often afterwards while upon the green-top white, so that in the month of December we may have only the half-bred hoggs, or other crosses which we may have laid in later, for swedes.

After the hoggs are upon green-top white turnip we like to begin to cut the turnip for them as soon as possible, not so much at this early season, because the hoggs may be beginning to lose their teeth, as because clean food, fed out of boxes, tends to save life. Before cutting begins we often lose a few from sand getting into the turnip shells, and so into the stomach of the animal. This is a common cause of loss in young sheep. In our own case we would often cut the turnip sooner than we do, but where a considerable breadth of potatoes is grown every available hand is generally employed in the securing of that crop.

As I am convinced that young sheep thrive much better when kept in separate small lots when on turnip, I try to have them separated into lots of about one hundred each, and often arrange these lots according to forwardness of condition. By this plan, when the first lot is ready for the market, it can be sent off, or some drawn out of it, without disturbing the other lots. This dividing into several lots entails the use of a greater number of sheep-nets than usual, but not so many more as at first sight may appear, as when the nets are moved forward a net length, the back net can be shifted to the front and so used again.

The space for each lot will depend upon the number of lots and the length of the break to be taken in, but the breadth of each division need not exceed one net length, or about fifty yards. We use wire-nets for the divisions, and string-nets in front, as being more convenient when carrying the cut turnip across to the boxes.

We do not weigh the turnip, or restrict the quantity in any way; on the contrary, we try by any means to get the sheep to eat as much as they possibly can, as it is then they lay on flesh most quickly.

We place a turnip-cutting machine outside of each division, and along with it two or three service-boxes or large baskets, which are filled with cut turnip in the evening, so as to allow of quick feeding in the morning. As early in the morning as light will allow, the shepherd feeds to the sheep in separate cake-boxes as much cotton-cake as he finds they will clean up, say, in half an hour. At the same time, the person who cuts the turnip cleans out the turnip-boxes, and empties into them the contents of the spare baskets which were filled the previous evening, a few turnips into each box, and so on till all the lots have been served the same way. This allows all the sheep a quick start to feeding in the morning.

The feeder then comes back to the first lot, and cuts as many turnip as will cover the bottoms of the boxes two or three inches deep, and continues to serve all the lots in the same manner again and again during the whole day. We do not attempt to fill the boxes full so many times a day, but keep sprinkling a few fresh-cut turnips into the whole of the boxes as often as possible. By this means the sheep are enticed to the boxes, in view of the arrival of fresh food, oftener than they would be were the boxes filled at certain hours and allowed to remain unreplenished till empty.

At three o'clock in the afternoon the shepherd again feeds the sheep with cake as at early morning, and in the evening the turnip-boxes are left filled with as many turnips as the person in charge considers the sheep will manage to consume by morning. The spare baskets, or small boxes, are left full again so as to be ready for the morning as before. A heck for hay is placed in each enclosure, and is replenished every afternoon.

This is our daily routine, and it continues much the same until the sheep are sent off to the fat market.

A Word to Agricultural Chemists.

I should like before I finish to say a word as to the unreliability of chemical analyses as a guide to the feeding value of a food. While I freely admit that chemistry has done much for agriculture, I have long thought that agricultural chemists might do still more. Every practical feeder knows that some foods, which may show a comparatively poor analysis, often give as good, or better, feeding results than others showing a higher analysis.

Now the question may be asked, How does this happen? I am not prepared to answer this question precisely, but I suspect that while the chemist gives us the percentages of the constituents of the various foods quite correctly, he confines himself too much to the gross amount of these constituents, and does not undertake to show, for the benefit of the user, *what percentage of these percentages is soluble*, or rather readily digestible by the animal consuming it. For instance, it seems to be the fashion at present to value the feeding properties of turnips entirely by the amount of dry matter they contain, ignoring the fact that there is dry matter and dry matter. Mr Hendrick, chemist to the Highland and Agricultural Society, shows in his article on "The Composition of Turnips and Swedes," published in the 'Transactions' of that Society for 1906, p. 295, that the ratio of insoluble dry matter to the soluble varies very much. He says that "in No. 2 about 4 per cent of the dry matter is insoluble and 6 per cent soluble. In No. 11 only 2¼ per cent of the dry matter is insoluble and 8 per cent soluble. The ratio, therefore, of soluble to insoluble matter in the two is very different."

I have known a case—in England—where the turnip contained so much dry matter, chiefly fibre, that the grower let the field to a grazier for nothing, on condition that he fed to the sheep a certain amount of cake, and even then the grazier found he had a poor bargain. If dry matter, insoluble as well as soluble, is to determine quality, then the acme of perfection in a turnip would be a globe of dry, woody fibre.

Then as regards imported feeding-stuffs, at page 17 of No. 4 Bulletin of the Edinburgh and East of Scotland College of Agriculture, it is stated that a mixture of decorticated cotton-cake, wheat, and cotton-seed was used in the case of lot No. 4. This mixture was meant to resemble linseed-cake in analysis, but fell somewhat short in albuminous compounds, and came out richer in carbohydrates. Although showing an excellent analysis, this compound fell much short of linseed-cake in feeding results. There may be several reasons for this failure. There may have been a want of palatableness which chemistry cannot show, and there may have been a mechanical reason for a certain amount of indigestibility, such as hard pressure of the decorticated cotton-cake. This result is sufficient to show that chemical analysis alone, as at present given, is by no means a sufficient indication of the feeding properties of any particular feeding-stuff.

Again, some simple foods, such as Indian corn, may be naturally too hard and dry to yield their full feeding value during the short time they may be retained within the animal. When American farmers feed whole Indian corn to cattle they keep numbers of pigs running with them to redigest it.

Then some foods, which are residues of simple materials, seem sometimes to be rendered more or less insoluble by the action of acids and counteracting alkalies to which they may have been subjected during the process of manufacture. I would therefore suggest that when using compounds for feeding purposes, one ought to know the various materials used in their composition, as chemical analysis alone without such knowledge may be, as I have already hinted, more or less misleading. Analysis has proved of very great value to agriculture in detecting adulteration and in many other ways, and I think we should not forget its difficulties, and how expedient it is to supplement its conclusions by the results of practical observation and experiment.

FARMING METHODS IN LANARKSHIRE.

By Archd. MacNeilage, Editor of 'The Scottish Farmer.'

In a former article, published in last volume of 'Transactions' (fifth series, vol. xviii., 1906), some account was given of "Farming Methods in Ayrshire." This paper deals with systems of farming in the Clyde valley and the upper parts of Lanarkshire, the object being entirely practical and in no sense personal. It is not to set forth the merits of any one farm more than another, but to give information which may be useful to those engaged in kindred agricultural pursuits, where soil and climate may be somewhat similar to what they are in the great mineral county of Scotland.

Farming near Glasgow.

Of necessity, proximity to a great consuming centre like Glasgow must to a large extent determine the system followed on any farm. In the parish of Cambuslang, bordering on the upper waters of the Clyde, are two notable holdings—Westburn and Newton—tenanted respectively by Mr James Wilson and Mr John Speir. Both men are Ayrshire born and bred, so that, although we have left the western shire, we have still to do with Ayrshire men.

WESTBURN.

This farm is on the property of the Duke of Hamilton, contains about 350 acres arable and pasture land, and for about one mile of its length has the river Clyde as its boundary. The soil is a good loam, capable of growing almost any kind of crop. It is kept in the best of order, and draining is attended to with regularity every season. Resting on the Lanarkshire coal measures, and being hollow underneath because of the workings, drains have to be attended to or the land would soon be in a mess. The drains are from 15 to 20 feet apart, and from 2½ to 3 feet deep. The cost of drainage is about 1½d. per yard, 2½ feet deep. Buildings and fences (thorn hedges) are in excellent order, the steading having recently been reconstructed entirely at the landlord's expense, except that the tenant did the carting. He pays no interest on the landlord's outlay.

The farm, as managed by Mr Wilson, has three leading features: (1) a dairy of 60 cows, the milk from which is supplied daily under special contract to the Western Infirmary, Glasgow; (2) vegetable-growing for the Glasgow market, 35 to 40 acres being under such crops; (3) rhubarb-growing, with winter forcing, so that two crops are taken each season in darkened houses. About 30 acres are under this crop. It is obvious that here we have lighted upon a kind of farming unique, and calling for diligence of no ordinary character.

The Dairy.

With respect to the dairy, the milk is sold at a special price under a special contract, and averages nearly 8¾d. per gallon all the year round. Calf-rearing is not indulged in except on very rare occasions, and the stock is mostly composed of sound commercial deep-milking Ayrshires, with a few Shorthorn crosses from time to time. Generally the head of bovine stock on the farm will number from 65 to 75.

Cropping

The cropping on this farm, apart from the vegetable and market-gardening phase of things, is carried out on the four-course rotation. Vegetables and rhubarb can be grown year after year on the same plots, the manuring being heavy. Stable manure is got in large quantities from Glasgow, and applied to the extent of 30 to 40 tons per acre for green crop, and sometimes 10 to 12 tons per acre for oat crop. Autumn manuring is not approved of where the land is bare, and very little artificial manure is applied except for top-dressing hay, and vegetables such as cabbage. Nitrate of soda is the principal fertiliser in use for this purpose, with an occasional application of superphosphate and potash.

Oats are sown with the corn-drill to the extent of 5 to 6 bushels per acre, and one-sixth of the farm will be under oats each season. Recently Mr Wilson has been sowing Storm King, Tartar King, and Waverley, as well as some other varieties.

Wheat is sown with the corn-drill, in October or November, to the extent of about 3½ bushels per acre, turnips to the extent of 3 to 5 lb. per acre in spring, and cabbages are planted 12,000 to 16,000 per acre. Mr Wilson obtains change of seed for nearly all his crops. He gets seed wheat from England, oats from the Lothians, and potatoes from the north and east of Scotland.

From one-twelfth to one-tenth part of the area of the farm is under a potato crop for the autumn market. The varieties planted are British Queen, Up-to-Date, Scottish Triumph, Bountiful, and Langworthy. They are planted in a 27-in. drill, and 12 in. between each set. Mr Wilson prefers good round seconds for seed. To a small extent he follows the practice of boxing and sprouting the seed before planting. He puts the seed in the boxes after lifting or early in winter, and keeping the sets free from frost, plants them with the growth not too far forward. October is the usual month for the potato raising, and sales are effected during winter and spring, a considerable proportion of the Westburn crop going to England for seed.

Swedes and mangels are grown, but not extensively, for winter feeding. Tait's Best of All is the swede preferred. The land for turnips and potatoes is ploughed in autumn, and then wrought in spring to receive the crop. It is "wrought" until a fine mould is obtained, but in an average season this is not a work of great difficulty with a soil like that on Westburn. Roots may yield about 24 to 35 tons per acre. The crop is raised in the usual way, mainly by female labour. It is lifted and housed, or put into pits and covered with "broke" straw.

About 25 acres of cabbages, 10 acres Golden Stone turnip, and 3 acres parsley, lettuce, and beet, are planted annually, and the crops are sold in Glasgow Bazaar. They are cultivated in the same way as potatoes, but dressed with extra quantities of stable manure, and also extra dressings of artificial manures.

Like most dairy farmers in the west, Mr Wilson is a believer in the timothy meadow. He has about 30 acres under timothy annually. One 18-acre meadow has been cut for six years, and is still very good. It has been dressed with from 12 to 16 tons stable manure every second year, and artificial manure in the alternate season. Hay harvest begins on Westburn about the first week of July, and oat harvest about the middle of August.

Labour.

Labour on a farm like Westburn is a big item. The regular staff consists of seven ploughmen, five ordinary labourers, and two boys; women workers vary in number from five to twenty, according to the season. Women employed as field-workers are paid usually 9s. per week, and 15s. per week in harvest. Ploughmen get 21s. per week and a free house. Labourers get 22s. per week, but find their own quarters. The labour bill on Westburn works out to about 70s. per acre on the whole farm.

NEWTON.

The agricultural world generally has heard of Mr Speir and his farm at Newton. To some extent his methods are the same as those of his neighbour, Mr Wilson. It is unnecessary, therefore, to duplicate notes where things are in common. The farms, although contiguous, are under different lairds, Mr Speir's being on the estate formerly owned by Mr John B. H. Montgomery. Newton farm lies between 50 and 150 ft. above sea-level. It is mostly composed of very light land, some of it not much better than sand or floating mud, while other parts of it are stiff clay. It contains a good piece of old pasture which has lain out for at least thirty years.

Drains.

Drains are subject to frequent chokings and lowerings of levels from the effects of underground workings, and constant watchfulness is needed to keep them in repair. Usually they are laid about 18 ft. apart and 3½ ft. deep. Owing to the great amount of iron oxide in the soil, tiles of a larger size than is usual are laid: 3-in. tiles are the smallest. Mr Speir puts the cost of draining at from £5 to £5, 10s. per acre for digging, laying, and filling, with from £3 to £3, 10s. additional per acre for tiles.

Buildings.

Buildings on Newton are sufficient for the purpose intended. Shedding for implements has been erected by the tenant at his own cost. The opinion is expressed that farm-buildings in Scotland generally are too elaborate and expensive. For all, except the dwelling-house and other buildings indispensable on any farm, buildings of creosoted wood and iron, on brick or cement foundations, would be quite satisfactory. This is a point which has been overlooked in the past, and under the rapidly changing conditions of modern agriculture it may very well be kept in view.

Fences, &c.

Fences along the main roads consist of thorn hedges, and are in excellent order, being switched annually. Internal fences could be improved. Mr Speir's predecessor was a cropping tenant, to whom internal fences were of secondary importance.

At present landlord and tenant are engaged in straightening out a crooked stream, and the march fence is being renewed at the joint expense of the proprietors on either side. The cost of straightening the burn is being borne jointly by landlords and tenants, and the forming of the waste land along the old waterway is being executed by the tenants.

Dairy.

The leading features on Newton might be described by quoting the terms employed regarding Westburn. The dairy consists of from 80 to 90 cows, 60 to 75 of which are constantly in milk. This is supplied to Belvidere Fever Hospital under a special contract with the Public Health authorities of Glasgow.

The cows are purchased when young on the basis that they stand the tuberculin test. Should they fail to do so they are returned. Mr Speir believes that the cost of an efficient testing is more than repaid by the greater healthiness of the stock.

As a rule cows from four to five years old are purchased, and these are mated with a black bull, the calves going to the feeding districts for fattening purposes. Cows when sold out, on account of age, failure to breed, or defective milk yield, are sold fat. The calves are sent off when from ten to fourteen days old. They are put into an old oilcake or other bag, with their legs quite free. The mouth of the bag is sewn closely round the neck, and in this way the calf is carried safely any reasonable distance. These calves by a black bull realise several times the price of a pure Ayrshire calf.

Sheep.

The only other live stock on the farm that need specially be mentioned is a flying stock of from 300 to 400 sheep. These are bought in August, and are fed on cabbage, with grain and cake. The cabbages are usually the second growths of an early crop cut for table use. Italian ryegrass is sown among the cabbages when these are last earthed-up. The sheep have therefore a first-class bite. When consumed in this way, the second growths of the cabbage crop, when the sheep are folded on to them, realise from 30s. to 80s. per acre, less the cost of cake and attendance. This is an illustration of the intensive farming followed on Newton, of which more will be heard.

Mr Speir is not a horse-breeder. He finds that mares worked as hard in summer as his require to be, cannot be bred from with safety or profit. Those who have seen his carts in town will bear witness that he keeps a very good class of serviceable, thick, working Clydesdales.

Cropping.

The rotation on the cropping land on Newton is as follows: Green crop, grain crop, and hay; or green crop, wheat, hay, and oats. Mr Speir sows from 3½ to 5½ bushels of oats per acre, according to the variety; wheat, from 3 to 4 bushels per acre, according to variety and time of sowing. Turnips are sown in the proportion of 3 lb. to 8 lb. per acre, according to variety and the purpose for which the crop is intended. A similar remark applies to cabbage. They are planted to the extent of from 12,000 to 16,000 per acre, according to variety, date of planting, and purpose aimed at. They may be grown for cattle-feeding, or for the Glasgow Bazaar. In the latter case they will be planted early, the first growth cut, and the second consumed by sheep, as already described. Seed is changed on Newton as on Westburn. Wheat will be changed annually; oats and potatoes every second or third year. Wheat is generally obtained from England, oats from a clay soil anywhere at a distance, and potatoes almost invariably from moss. The varieties of oats sown on Newton recently have been Storm King, Waverley, Goldfinder, and Wideawake. From one-tenth to one-sixth of the entire area of the farm is under oats annually.

Tillage.

Mr Speir's method of tillage is of course determined by the character of the soil and the season. In an early and dry autumn he cultivates the stubbles with a broad-tined grubber, and hand-picks any weeds exposed. The land so dealt with is ploughed perhaps in December, with a furrow from 8 to 9 in. deep; and before potatoes are planted it may again be harrowed and ploughed. This, however, is not the invariable practice, the land being frequently harrowed and drilled after the first ploughing, following on the late autumn grubbing. One-half of the green crop is usually grown after hay. This land gets about 15 tons of dung per acre in October or November. This is ploughed in about a month later; and after being harrowed it is again ploughed, with a deeper furrow, in February or March; after this the soil is usually ready for harrowing and drilling.

Manuring.

Dung is applied to all green-crop land to the extent of from 25 to 30 tons per acre: this dung may be either farmyard, or stable manure purchased in the city. Artificials are applied in varying quantity over and above this, according to the crop to be grown. Mr Speir is an advocate of autumn manuring within limits. All this hay land is dunged between September and December, when the plants are living and growing and can take up the soluble portion of the dung; but with this exception he applies no dung in autumn. The stubble land is dunged in spring.

Slag and potash are sown on the wheat for the sake of the succeeding clover crop; nitrate of soda is applied to the hay. The grain crops get no artificials, and the green crop is dressed according to the requirements of each crop. Through the application of basic slag and potash to the wheat crop in winter, Mr Speir has never failed to get a sufficient clover crop among the Italian ryegrass. Previous to the adoption of this plan he had no uniformity in the clover crop.

Hay Crop.

Mr Speir does not make a practice of seeding hay, but in seasons when there was known to be a shortage of Continental supplies of Italian ryegrass he has seeded the second crop, and found the course under such circumstances profitable. He has a small timothy meadow which has given two crops annually for over twenty years. In Mr Speir's opinion, a timothy meadow on deep firm soil well manured is permanent; on other kinds of soil the meadow should be renewed every five or six years. In laying down his timothy meadow Mr Speir sowed timothy along with Italian ryegrass on wheat, and two crops of hay have been taken annually since. The first crop is always heavy: it is cut when the flower begins to show; but the second crop is never heavy. Dung is not applied to the meadow, but sewage and water from a stream are applied during the greater part of the year.

Potatoes.

Potatoes are grown chiefly for the Irish seed trade: the crop covers about one-tenth part of the area of the farm. British Queen and Up-to-Dates are the favourites at present; but Mr Speir gives all the new varieties a trial. Drills are 28 in. wide, and sets from 12 to 14 in. apart. The seed is mostly all boxed. It is put into the boxes usually a short time after being dug; but in the case of the Up-to-Dates the seed is not boxed until January. If these later boxes are kept a little darker than the rest, the seed in them is as far forward as it is wanted to be at the time of planting. The crop is lifted in October, and disposed of for seed in spring from January to April.

Other Crops.

Mr Speir sows Irvine's Green Top variety of turnips. The yield may be anywhere up to 30 tons per acre. The crop is lifted and stored in large pits or heaps covered with straw, near to where it is to be consumed, and easy of access in wet weather.

Cabbages are grown very extensively on Newton. Planting begins in the first week of February and continues until April. It is resumed in the end of August and continues during September. As Mr Speir has explained in detail, in a former volume of the 'Transactions,' his system of growing cabbages, it is unnecessary to recapitulate. But there are certain other crops grown on Newton that call for attention.

Two crops of hay are taken annually, and on the average as good a price is realised for the second as for the first: the second is usually better coloured than the first. About 10 acres of the farm are generally under carrots, and from 20 to 25 acres under cabbages; 20 acres are under rhubarb, one-fourth of which crop is lifted annually and forced. About 8 acres are under daffodils and narcissi, a portion of which are forced each winter, the flowers being gathered in February. During summer the forcing-houses are devoted to tomato-growing. These houses are three in number, each 200 ft. long and 16 ft. wide. The rhubarb forcing-houses are also three in number, 110 ft. long and 40 ft. wide.

Labour.

Farming such as carried on at Newton entails a heavy labour bill. It solves the problem of rural depopulation, because it calls for labour and finds it during a greater part of the year. Mr Speir employs one grieve, who is over all and subject only to the master; one foreman over the women workers, who number at times from fifteen to one hundred, according to the season. There are seven ploughmen, one cow-man, one shepherd, a gardener, a joiner, six ordinary labourers, and one boy. The terms of engagement are rather unusual. All married men are engaged with a month's notice on either side. Dairywomen are engaged on the usual six months' basis; others are engaged as required. With respect to the cost of labour, the broad fact is stated that, inclusive of grass land,—which is almost one-fourth of the whole area of the farm,—the outlay on labour for many years past has been slightly over two times the rent. The labour bill for each of the varied crops grown by Mr Speir would certainly be interesting, but the difficulty of forming such an estimate is insuperable.

Implements, &c.

An inventory of the implements on an up-to-date farm like Newton shows the farmer to be more of an engineer than anything else. Mr Speir has been good enough to give such an inventory, and I give it as he draws it out: Carts, hay-waggons, rick-lifters, ploughs; harrows for flat land, for top of drills, and between drills; grubbers, cultivators, grain-drills, grass-seed sower, turnip sower, drill for sowing garden or small seeds; mowers, reapers, binders, scythes, hay-rakes, hay collectors (two patterns), horse-fork; rollers, clod-crushers for flat and drills; potato digger; steam engine, threshing machine, hand fans, bobby grain sizer and dresser, chaff-cutter, corn bruiser, oilcake breaker, disintegrator for making meal, meat coolers, turnip cutters, churns and dairy utensils, sack hoist, pulley blocks; hand hoes, spades, graips, forks, shovels, &c.

GARTCRAIG.

This farm is not on or in the Clyde valley, like Westburn and Newton, but it is also within the six miles' radius of Glasgow. It is tenanted by Mr James Murdoch, and is situated near to Shettleston, on the east side of Glasgow. It extends to 274 acres of medium land resting on the whin rock. The farm has not been drained for twenty years. Previous to that time it was all thoroughly tile-drained with drains 14 ft. apart and 3 ft. 6 in. deep. The cost would be about £10 per acre. Re-draining is urgently required, perhaps not so much on this farm, but generally in the neighbourhood. The fences are mostly stone dykes and hedges, and are in fairly good order. Several cottars' houses have recently been erected by the landlord, and the tenant has erected sheds in the steading.

The farm is wrought on the usual four-course rotation: oats, hay, green crop, and wheat. The last is of more importance on this farm than on most farms in the west of Scotland, and is grown quite as much for the straw as for the grain. There is a good market, for mattress-making, for unbroken wheat straw in Glasgow. Oats are sown 5 bushels to the acre; wheat, 4 bushels to the acre; turnips, 4 to 6 lb. per acre; and cabbages, 10,000 per acre. Wheat seed is procured from the Lothians.

The land is ploughed for oats in winter, for green crop in

March, and for wheat in November, and there is the usual spring cultivation of stubble land. Very little artificial manure is applied, horse and cow dung being plentiful, and it is applied at the rate of from 30 to 50 tons per acre. The principal oat grown is the Hamilton variety. Potatoes are mostly Up-to-Date, planted 12 in. apart in 27 to 28 in. drills. Swedes are usually Monarch and Best of All varieties, and the swede and cabbage land is wrought very much alike.

Mr Murdoch has an Ayrshire herd of 60 head. He supplies milk to dairies in the city at wholesale prices. No stock are reared, the cows being all bought in and sold off as fat when they cease to be profitable in the dairy.

Being well known as a judge of Clydesdales, Mr Murdoch breeds a few foals every year. He employs four ploughmen, one at a wage of 22s. and three at 21s. per week with free house and one bag of potatoes and one boll of oatmeal each per half-year, two ordinary labourers at 24s. per week each without perquisites, female servants at from £10 to £12 each per half-year with board and lodging, female outworkers at 1s. 8d. per day, and two boys—one at 12s. and the other at 15s. per week.

Gartcraig is typical of scores of farms in the vicinity of Glasgow. It is cultivated like a garden, every inch of land being cultivated close up to the dykes and hedgerows. In this respect it is one of the most interesting farms in the neighbourhood, but it is not alone.

TORFOOT, AVONDALE.

Of a totally different character is the farming in Avondale. This is a district in which there are many small lairdships, and it is one of these which I now propose to describe.

Torfoot is the property of the occupier, Mr John Paterson. It lies between Strathaven and Darvel in the Drumclog district, 650 feet above sea-level. The area is about 75 imperial acres, and it is nearly all arable. The soil is a gravelly light loam, partly a grey soil on top with gravel below. It is naturally dry, and drains itself with little trouble into the Avon. All the "holm" land and part of the peaty soil was drained between twenty and thirty years ago. There is an interesting fact in this connection. Two acres of peaty land were drained about twenty-five years ago. Tiles were put in, but there was no outlet, the bottom of the drains being pure sand and gravel. The soil has been dry ever since. Land in the neighbourhood is generally fairly well drained, but there is not the same attention paid to this as there used to be.

One drawback to the successful management of these small lairdships is difficulty in complying with the unreasonable requirements of sanitary authorities with respect to the buildings required for dairy purposes in uplands. What may be quite necessary on a large estate and near to manufacturing centres is both prohibitive and unnecessary on an Avondale lairdship.

Permanent fences are of larch stobs with six rows of wire, a few hedges, and, most effective of all, the river Avon. Larch stobs cost 5¼d. each, bright wire 11s. 6d. per cwt., and larch posts 2s. 9d. each.

The leading features of Torfoot holding are dairying and poultry-keeping; also wintering a few Blackface ewe hoggs or crosses and pig-keeping. Mr Paterson has poultry-houses studded all over the farm, some fixed and some on wheels. He keeps six or seven pure breeds of poultry and some cross-bred fowls, and uses a Tamlin incubator.

From 20 to 22 Ayrshire cows are kept, and 10 calves are reared annually. The cows are brought in to calve at two years old. The calves are reared at first on milk, gradually tapering off into a mixture of oat- or barley-meal and linseed-meal drinks.

The milk during the five months from May to September is made into cheese. After September it is sold at the best price that can be got, to go by road or rail to Glasgow. Mr Paterson makes the uncoloured flat Dunlop cheese, and perhaps on occasion a few Stiltons. He has been a successful exhibitor of Dunlops at the Highland Show.

About threescore lambs are bought in autumn and sold again in April or May. Horses are not bred, and the motor is anticipated as a possible boon to the small holder, who regards horses meanwhile as a necessary evil.

Cropping.

The most valuable crop on a holding like Torfoot is its pasture; after that may come the timothy meadow and the hay crop. The cost of labour is difficult to estimate, because the work is mainly done by the occupier and his wife and family.

Being a free agent, the occupying owner has no trouble about freedom of cropping, and little wonder, seeing he has fixity of tenure and free sale. Mr Paterson crops as he thinks it will best pay him, but generally endeavours to follow this course: lea oats, green crop, oats, and hay for two or three years.

Mr Paterson has some pasture over twenty years old, but generally he finds it requires renewing after ten or twelve years. Oat seed he procures from Ayrshire, preferably about Kilmarnock. Potato seed he varies from moss to sand and from sand to moss. He ploughs lea immediately after the New Year, then stubble, and the clean or red land just before seed-time. But the principle acted on is to plough as little as possible, to purchase as little artificial manure as possible, but to make the farmyard dung spread over the whole of the cultivated land. Lea oats will get from 3 to 4 cwt. of artificials, consisting of one part sulphate of ammonia and three parts superphosphate. Like all upland farmers, Mr Paterson believes in bone meal, which he applies to the land when it is being sown out. The Cunningham system of cropping without roots is regarded as good practice, Mr Paterson having often had good hay and pasture after stubble oats. But the pastures are getting liberal dressings of basic slag, superphosphates, dissolved bones, and bone meal. The practice of two white crops and no green crop is not new in the experience of these upland yeomen farmers.

Of oat varieties, Tam Finlay, Longhoughton, and Banner are in favour.

Timothy is sown on all grass land, along with ryegrass, cocksfoot, and clovers. The pastures are managed with skill, the object being to maintain them in good condition as long as possible; therefore, good seeds are sown.

Summing up Mr Paterson's experiences, considerable light is thrown on present-day problems. The place, when purchased by his father about half a century ago, carried about one-third the head of stock it is carrying now. It is naturally very poor, "silly" land, but constant feeding of stock and attending to them carefully has in this case brought a gradual, although a somewhat tardy, reward. One point is worthy of special mention. Mr Paterson does not buy "special" or mixed manures. Until the opening of the Strathaven and Darvel branch line about two years ago it was a costly business carting manure or other material six or seven miles from Strathaven, and it was not attempted. Mr Paterson was for many years Secretary of the Avondale Farmers' Analytical Association. Through it he could purchase his own ammonia, phosphates, and potash at wholesale prices, and make his own special manures according to the requirements of soil and crop.

SANDILANDS.

Few Upper Ward farmers are better known than Mr James Weir, the tenant of Sandilands farm, on the Earl of Home's Lanarkshire estates. Besides Sandilands, Mr Weir farms Burnhouse, the two holdings being practically one. They extend to 390 acres, of which 337 acres are arable and 53 pasture. The soil is chiefly of a dry, thin, gravelly nature, and 140 acres consist of cold-bottomed clay.

Drains, Buildings, and Fences.

A good deal of draining has been done during the past two years, and the whole of the farm was thoroughly drained when Mr Weir became tenant thirty years ago. The drains are laid 18 ft. apart and 3 ft. deep. The tiles are of fireclay. The cost of cutting was 3s. per chain, and tiles according to size. Many of the drains laid from twenty-five to forty years ago have become useless on account of the tiles then put in being too small. These have all been lifted and 3-in. pipes put in instead.

The buildings in Mr Weir's occupancy are generally in good order, and the stables, byres, and granary accommodation are extra good. Not with reference to his own holding, but generally, Mr Weir is of opinion that buildings for young cattle could be put up much more cheaply with brick walls and galvanised iron roofing. Fences are stone dykes, hedges, and wire, and are all in good order.

The march of agricultural improvement has not been stayed on farms like Sandilands and Burnhouse, where proprietor and tenant are both able and willing to work hand in hand. The fences were put into good order when Mr Weir entered, and within the past four years some splendid stone dykes, 5 ft. high, have been built by the proprietor, the tenant quarrying and carting the stones. Twenty-six acres of what was regarded as comparatively worthless moorland was drained by the proprietor, while the tenant ploughed, took out the stones, and limed the soil. The best oats on the farm in 1905 were grown on this land.

The principle followed by Mr Weir has been that of making the produce walk off the farm. In other words, a naturally poor, thin soil has been made to grow excellent crops by liming and the liberal feeding of cattle and sheep on the land. The purchased cereals and cakes have entailed an annual expenditure of double the amount paid in rent, and nearly all the home-grown grain has also been consumed on the holding. Where dairying is not prosecuted, this is the only system which can possibly be expected to yield good results.

Cropping.

The rotation is that usually followed in the districts—viz., (1) oats after lea; (2) turnips, with a few drills of potatoes; (3) oats, with "seeds"; (4) hay, all of which hay is consumed on the farm. Mr Weir has been a diligent patron of new varieties of oats, but does not commit himself to any statements on that score. He sows from 4 to 6 bushels oats per acre, according to the tillering properties of the variety used. He grows neither barley nor wheat, and for green crop depends almost entirely on yellow turnips.

The stubble land is all dunged in autumn, the dung lying on the land a considerable length of time before being ploughed in. The soil is so porous that the value of the manure is saved by this method of treatment. The lea oats are sown with "seeds" to give a good bite to the sheep after the oats are cleaned off. The grass roots also take up the manurial residues. It is obvious from this that Mr Weir has a fairly dry climate. Most farmers find the grassy butt-ends of their oat sheaves after green crop difficult enough to dry, without risking further difficulty of a like nature with the lea oats; but Mr Weir aims rather at a heavy oat crop, which sometimes kills out the "seeds" should the straw lodge.

Manuring.

The grain crops are manured with ¾ cwt. sulphate of ammonia, 2 cwt. best superphosphate, and 1 cwt. potash per acre. The turnip crop gets all the farmyard dung, and a dressing of superphosphate, with a little ammonia and potash, in the drills. On suitable soil Mr Weir applies basic slag and basic superphosphate, to the extent of 5 to 8 cwt. per acre. From 25 to 30 tons of artificial manures are supplied annually to the whole farm.

Basic slag is applied extensively to the old pasture and does much good, and potassic manures are constantly applied, with unfailing success to the thin soils.

Turnips yield from 25 to 30 tons per acre, and are harvested by being put into large heaps and covered with straw. For spring use a few acres are ploughed in.

Live Stock.

Mr Weir carries on both kinds of stock farming. He has a stock of 35 cross cows, and from 60 to 70 head of young cattle. From 35 to 40 calves are reared annually, and at Burnhouse 25 cows are let to a bower for dairy purposes. A black polled bull is kept, and at Sandilands there are 10 cows kept, which rear the calves from the dairy herd as well as their own. The calves suckle the cows until they are able to eat; they are then taken off their foster-dams, and a new batch of sucklers take their places. All these calves are fed off at two years old, about 50 cattle being fed annually.

The bower makes Dunlop flat cheese during the summer months, and in winter sends the milk to Glasgow. His price may be from 6d. to 9d. per gallon according to the season. The cost of carriage is 1d. per gallon by rail.

Sheep are an important factor in the successful management of a farm like Sandilands. About 16 score of greyface and half-bred lambs are fed during winter. They are usually all disposed of by the month of May. Their places are taken by ewes with lambs at foot, which are fed with cake and corn all summer. These lambs are sold fat in July and August, and the ewes are ready for the fat market by the end of August or beginning of September. The new crop of lambs for winter feeding are put on after the late autumn sales.

Horse-breeding is a feature of Mr Weir's ordinary farm practice. Clydesdales of good pedigree are alone kept, and from 5 to 8 foals are reared annually. When the foals are weaned they are put into a field with a wooden house for shelter, and are liberally fed on chop and hay. The mares in foals are carefully worked up to the day of foaling.

Labour.

What I have now been describing is a thoroughly business up-to-date farm. It is wrought by one foreman, three ploughmen, one boy who looks after the sheep, one or two labourers during winter, and from three to four during summer. These are chiefly Donegal Irishmen, and good, useful, honest workers they are. Women workers "are not to be had for love or money." The foreman has 22s. per week, with free house; the three young men (ploughmen) have from £10 to £15, with board and lodging, per half-year; and a byreman has £15, with board and lodging, per half-year. Mr Weir does not know what the cost of working the farm per acre may be, and thinks it better not to try to reckon it, as otherwise he fears the plough would not be yoked.

WOOLFORDS.

The farm of Woolfords, Cobbinshaw, is situated in the Upper Ward of Lanarkshire, in the occupancy of its proprietors, Messrs James and Matthew G. Hamilton. It is known far and near as the home of one of the best flocks of Blackface sheep in the country. It contains 1200 acres, of which 350 are arable and pasture, and 850 or thereby rough pasture or moorland. The soil varies from a stiff clay to moss, and the farm is regularly drained, from 5 to 10 acres being gone over every year. These drains are placed from 10 to 20 ft. apart, and from 2 ft. to 3¼ ft. deep; 3-in. tiles are laid, and the cost will run from £5 to £10 per acre.

Live Stock.

The leading features on Woolfords are Blackface tup-breeding and the rearing of store cattle, the steers to be finished off on better land and the heifers sold for dairying: 120 head of cross-bred cattle are usually carried, a Shorthorn bull being in use. Each cow suckles two calves for about four months. The calves are then weaned and fed by hand, while other relays of two calves take their places.

Blackface tups are reared on the most advanced principles. The lambs are weaned about the middle of August, and put upon foggage or good grass until the end of October. They are then housed, and get about ½ lb. each of oats per day, increased gradually to about 1½ lb. each, before they are put out to grass in April. This quantity is continued, with the addition of cabbages, until the sale season in September and October.

Cropping.

The character of the stock carried on Woolfords determines the system of cropping adopted. The rotation is adapted to the grazing needs. The field which has been grazed longest is broken up with lea oats, followed by a turnip, cabbage, or rape crop, and sown out with oats and hay. Oats are sown at the rate of 4 bushels, turnips 2½ lb., and cabbages 10,000 plants per acre. Lothian oats, Peebles turnips, and the best kinds of grass seeds are sown. Autumn manuring is practised, and the lea oats get 4 cwt. superphosphate and 4 cwt. potash per acre. Turnips or rape get 5 cwt. superphosphate per acre, in addition to the farmyard dung, at the rate of about 15 loads per acre. The cabbages get 40 loads of farmyard manure per acre, and are otherwise cultivated like the turnips.

There is a timothy meadow of about 25 acres in extent. It lasts from five to ten years, with a light manuring from the farmyard annually.

Storm King and Hamilton oats are sown, with Inch's Bronze-top yellow turnips and Langworthy potatoes—the last crop for household and farm use only.

The staff on this farm consists of one ploughman, two shepherds, two ordinary labourers, and one boy. The wages paid to married men are 21s. per week, with free house.

TRIALS OF OATS.

By JOHN SPEIR, Newton Farm, Glasgow.

IN 1905 a trial of three varieties of oats was carried out here—(1) Garton's new oat Universal; (2) Potato, from a new stock of seed; and (3) Wide Awake, from a stock which had been grown on the farm for one year. Of each variety one sack of seed was used, drilled in early in April at the rate of slightly under four bushels per acre. The land selected was a free loam after Italian ryegrass and clover, which had yielded two cuts of hay and been lightly manured with dung in October. Each variety occupied a strip across the middle of a 12-acre field, and with none of the varieties were the headlands included. A space three feet wide was left unsown between each of the varieties, the actual ground covered by each being carefully measured after the crop was reaped.

All the varieties did equally well during the summer, and their growth was not materially interfered with by any untoward climatic or other circumstance. The ear of Universal oat was out about 14 days before any of the others, and it was ripe and ready to reap three weeks before the plots of Potato or Wide Awake had reached an equal degree of ripeness.

At the date of reaping, the most of the Universal oat was standing. It was opened by the scythe along the long side and at the ends, and was cut by the manual delivery reaper. Very wet and stormy weather set in before the crop was ready to stack, and in the interval considerable loss of grain occurred owing to depredations by crows and small birds. The plot was away from any house and very much out of sight, and a good deal of damage was done before it was noticed. Immediately after rat-traps were set on the tops of several of the stooks, and when one or two crows had been caught the damage ceased. The loss in grain would, however, amount to somewhere between two and three bushels per acre.

The plots of Potato and Wide Awake were reaped in the same manner as the Universal, and each, when sufficiently dry, was stacked separately. In January all were thrashed, with the following results:—

VARIETY.	Lb. of dressed grain.	Lb. of small and light grain.	Total bushels of 40 lb.
	per acre.	per acre.	per acre.
Potato . . .	2154	10	$54\frac{4}{40}$
Universal . . .	2296	67	$59\frac{3}{40}$
Wide Awake . .	2884	107	$74\frac{31}{40}$

The grain of the Potato oat was the best sample of the lot. It was a nice class of grain, seemed to have less husk, and was much whiter than any of the others. It weighed 42 to 44 lb. per bushel.

The Universal was larger in the grain than Potato, but in that respect it did not materially differ from the Wide Awake. The grain is more husky than Potato, although not excessive in that respect, but it had not the pure white colour of that variety. It weighed 41 to 42 lb. per bushel.

Wide Awake is a recent introduction from Canada. It and the Potato variety ripened at exactly the same time. The grain is not so fine as that of the Potato, nor yet has it the same colour. The least exposure to wet seems to cause it to take on a yellowish tinge. It seemed to contain about the same amount of husk as Universal, and weighed from 40 to 41 lb. per bushel.

The straw of all the varieties was about the one length, and none of them showed any more inclination to lie down than the others. The straw of the Potato oat was best eaten by the stock, as they seemed to relish it rather better than either of the other two. The grain of all the varieties tested seemed to have about an equal attachment to the straw. Where an oat is wanted to ripen early, or where the season is short, the Universal seems as if it would be a good oat. To all appearance it will be about the earliest, if not the very earliest, oat in cultivation.

ON SOME INJURIOUS INSECTS IN 1906.

By Dr R. Stewart MacDougall, M.A., Consulting Entomologist to the Society.

The Raspberry Moth—*Lampronia rubiella.*

During the past spring and early summer the caterpillars of this moth were very common, and over a considerable area their work was destructive. The damage done is to the buds and the shoots—the buds being bored into and eaten, and the shoots tunnelled. The caterpillar does its worst work not in the year of its hatching but in the next year. Hatching from eggs laid on the raspberry flowers in the summer, the caterpillars live for a time in the receptacle of the fruit, and afterwards pass into a hibernating stage under cover of a whitish silken cocoon, these cocoons being in the ground below the canes, or it may be in crevices in the rougher bark. In the next spring these caterpillars issue from their winter quarters, ascend the canes, and bore into the buds, which in consequence fail to develop. The caterpillars also tunnel into the pith of the shoots, which also fail. When full grown the caterpillar pupates in the hollowed-out pith of the cane, and in three weeks from pupation the moth issues, the flight time being from the end of May and in June, when the eggs are laid. The caterpillars are pink or red and have black heads; the legs number 16.

Remedial Measures.

Advantage should be taken of the fact that the caterpillars hibernate in the soil at the base of the plant, by disturbing them in this position or burying the surface soil so that the pests would be destroyed. This treatment could be adopted any time between the late summer and the next early spring.

The base of the raspberry stocks should also be coated with a mixture of soft soap and paraffin before the issue of the caterpillars from their winter quarters, to prevent their ascent of the canes.

Cut off and burn the infested shoots. In very bad infestation the canes may have to be cut back right to the ground.

VINE AND RASPBERRY WEEVILS—*Otiorrhynchus.*

The Black or Vine Weevil (*Otiorrhynchus sulcatus*) and the Clay-coloured or Raspberry Weevil (*O. picipes*) continue to be sent. Both of these weevils feed at night-time on fruit and other plants in greenhouses and out of doors. Neither of the two beetles has wings.

The Vine Weevil has a well-marked furrow on its short proboscis. The beetle is black, with grey hairs on the head and thorax; the wing-covers are furrowed, and show yellow hairs; the legs are also dark in colour; the antennæ, which are bent, are clubbed at the tip, and are reddish in colour. The beetle measures about two-fifths of an inch in length.

The Raspberry Weevil is also a dark-coloured weevil, but the scales that cover it give it a clay colour; the wing-covers are furrowed, and bear bristles; the legs are red; the bent antennæ end in clubs. The beetle measures a quarter of an inch and over in length.

The larvæ feed in the soil on the roots of the plants; they are white in colour, with brown heads and biting jaws; legs are absent, and the grubs have a curled, wrinkled appearance.

Remedial Measures.

The commonly practised treatment is the collecting by hand of the beetles at night, the collectors being provided with a lantern; or the shaking of the weevils down on to tarred boards, or to white cloths spread for the purpose. Lately Mr W. E. Collinge has been experimenting as regards treatment out of doors, and he finds that the most useful measure is to place here and there among the branches of infested plants bands of hay loosely twisted. These act as traps, for the weevils use them as shelter places; the bands are removed every morning and burnt, with their collection of weevils.

Against the grubs in the soil, boiling-water used carefully may prove effective. The grubs are destroyed by vaporite, which is worked into the soil. It may be obtained from Mr G. F. Strawson, 71-A Queen Victoria Street, London.

GROUND BEETLES ON STRAWBERRIES.

Several times during the season specimens of strawberries badly gnawed were sent to me, along with the beetles which had caused the damage. These were two ground beetles—*Pterostichus* or *Omaseus vulgaris* and *Harpalus ruficornis.*

P. vulgaris is a black beetle with a somewhat shining appearance. Its thorax is obtuse, rather broader than long, and narrower behind than in front; it has a corrugated groove and two longitudinal depressions. The elytra are striated; there are no flying wings.

H. ruficornis is a winged form. It is pitch-black in colour, with the antennæ and legs red; the antennæ have a yellow pubescence. The elytra or wing-covers are striated, and in fresh specimens show a yellow-grey pubescence. Both beetles measure somewhat over half an inch.

The Ground Beetles, or Family Carabidæ, as a family, are both in adult and larval stages predaceous, attacking other insects in the soil both adult and larva. They are nocturnal in habit. Their head is narrower than the body, and has the antennæ springing from between the base of the jaws and the eyes. The legs are slender and fitted for running. The grubs of the Ground Beetles have an elongated body, with biting jaws and six legs. Although the general habit is predaceous, the two beetles named above have, along with another, *Pterostichus* or *Steropus madidus,* been proved to be destructive to strawberries; while another, *Zabrus gibbus,* is destructive to corn and root crops.

Treatment.

The beetles shelter in the strawberry beds during the day, under cover of the surface soil, and can be collected on turning over the soil with a trowel and exposing them. The measure that so far has met with most success is quoted by the late Miss Ormerod as follows: "A number of cheap pudding-basins were let into the ground, level with the surface, at distances of a few yards apart, and kept baited with pieces of lights and sugar-water. When the weather was dry, half-a-basinful of a night were often caught, until the number diminished gradually to two or three, and now none at all. It is a laborious process, but well worth the trouble."

THE BLACK CURRANT GALL-MITE—*Eriophyes ribis.*

This enemy of the black currant buds continues to be a great scourge up and down the country. Most black currant growers are familiar with the swollen buds that indicate the disease. The buds swell greatly beyond their normal size, owing to the presence in them of—it may be in large numbers—tiny worm-like mites, which irritate the tender leaves of the bud with their piercing and biting mouth-parts. The great importance of the knowledge of the life-history of a pest in revealing the stage or stages when treatment can be best applied has received in economic zoology many illustrations, and now is likely to be again illustrated in the case of the Black Currant Gall-Mite.

Speaking generally, it may be said that the majority of the mites are quite safe from any treatment in the form of wash or spray, from the late summer right on till the next spring, as during all this time the mites are safely ensconced under the protecting scales and leaves of the unopened buds. In the spring, say in March in a favourable season, some of the buds not too badly infested will open out, and the mites hitherto enclosed will now be deprived of their shelter-places. Such will probably begin to wander over the shoots, and probably most of these will perish.

The real migration for the year does not begin till a little later, and it takes place from badly-infected buds, which do not open on account of their having been spoiled. The mites begin to leave these dried and withered buds in April, the migration increasing in intensity on through May, and shading off as June progresses. These migrating mites pass into the new buds, between the scales and leaves of which they worm themselves, and the females proceed to their egg-laying.

It will have been deduced, then, from the foregoing, that for treatment against the mites to be effective, the vulnerable stage in the mite life-history is during the migration when the mites are exposed, before they reach new shelter-places. There have been some extremely encouraging experiments directed against the mite in badly-infected districts in the middle of England. These experiments have been supervised by Mr W. E. Collings, who believes that treatment with sulphur and lime at the migration period, if done carefully and thoroughly, will result in a cure.

Treatment.

Spraying the bushes with a mixture of 1 lb. sulphur, 1 lb. lime, and 20 gallons of water gave good results; but the best results were got by dusting with lime and sulphur. Mix together one pint of unslaked lime and two pints of flowers of sulphur. Dust this on the bushes when they are wet, at least three times, say in the first days of April, again in the middle or just after the middle of April, and again at the end of the first week of May or a little later, according to the season.

If any black-currant growers hitherto troubled with, and it may be beaten by, the mite, will try this treatment over a period of two seasons and report to me the result at the end of each season, I will collate the results and publish them in the 'Transactions.'

THE CORN-WEEVIL—*Calandra granaria.*

In the 'Transactions' of 1905 and of 1906 I made mention of this beetle as a pest in grain, and gave the treatment that proved most satisfactory against it. There has often been discussion as to the conditions of air and temperature and moisture under which the weevils would flourish, and with these points in view, and also to obtain some idea of the length of life of *Calandra granaria* in the adult stage, I made some experiments.

The life-history of the weevil may be briefly stated. The female lays her eggs—one egg to a grain—in a hole made in the grain, and the larva on hatching feeds on the contents of the grain, and when full fed becomes a pupa in the somewhat hollowed-out grain. The mature weevil issues from this grain. Not only is the grain injured by the feeding of the larva, but the adult weevils spoil many grains in their feeding. The length of the generation from the laying of the eggs to the development of the perfect beetle varies much with the conditions; but at a temperature of 80° Fahr., and with other conditions favourable, the whole life cycle can be completed in less than a month.

Experiments with Calandra granaria.

On June 2, 1905, I bred out from some wheat mature beetles and kept them all together until July 31, at which date all were alive. The beetles numbered 24, and with these 24 I started an experiment which might end in information as to length of life of the adult and the possibility of breeding in a confined space. For confining the beetles I used glass tubes 4 inches long by 1¼ inch broad, except in three cases where the tubes were 3 inches long by 1¼ inch broad. The tubes were half or three-quarters filled with grains of wheat and 12 beetles added to each. The wheat grains were chosen from material that had been lying enclosed in a glass jar for a long time, and the only moisture they contained was what chanced to be present naturally in the grain. Each tube was securely corked, and the cork not removed until each tube fell to be emptied and the beetles removed to fresh feeding-material.

The results may be summarised as follows:—

Description of Tube.	Number of Weevils in Tube.	How long in Tube.	Mortality at date of removal.	Placed in Tube thus marked.	Remarks, with proof that there had been egg-laying.
A	12	July 31 to Aug. 14, 1905	all alive	C	Larvæ found on dissection.
B	12		do.	D	do.
C	12	Aug. 14 to Aug. 19, 1905	do.	E	do.
D	12		do.	F	do.
E	12	Aug. 19 to Sept. 25, 1905	do.	G	do.
F	12		do.	H	do.
G	12	Sept. 25 to Oct. 7, 1905	do.	K	do. and beetles allowed to issue.
H	12		do.	L	do.
K	12	Oct. 7 to Nov. 10, 1905	do.	M	do.
L	12		do.	N	Pupæ almost ripe and beetles on dissection.
M	12	Nov. 10 to Dec. 2, 1905	do.	O	Larvæ found on dissection.
N	12		do.	P	do.
O	12	Dec. 2 to Jan. 8, 1906	do.	Q	do.
P	12		do.	R	do.
Q	12	Jan. 8 to Feb. 12, 1906	do.	S	do. and 67 adults in December 1906.
R	12		one dead	T	80 adults in Dec. 1906.
S	12	Feb. 12 to Feb. 24, 1906	do.	U	25 do.
T	11		all alive	V	81 do.
U	11	Feb. 24 to March 15, 1906	do.	W	5 do.
V	11		do.	X	9 do.
W	11	March 15 to April 3, 1906	6 dead	Y	76 do.
X	11		all alive	Z	134 do.
Y	5	April 3 to April 25, 1906	do.	1	14 do.
Z	11		do.	2	24 do.
1	5	April 25 to June 2, 1906	one dead	3	found on dissection no sign of egg-laying.
2	11		2 dead	4	80 beetles in Dec. 1906.
3	4	June 2 to July 19, 1906	one dead	5	found on dissection no sign of egg-laying.
4	8		4 dead and 4 escaped from confinement	..	do.
5	3	July 19 to August 4, 1906	3 dead	..	do.

The destiny, then, of the 24 *Calandra granaria* with which the experiment started is—

1 died between 7 and 8 months old.
1 do. 8 and 9 do.
6 do. 9 and 10 do.
3 died at 11 months old.
1 was accidentally killed when 12 months old.
5 died over 12 months old.
4 escaped from confinement when over 12 months old.
3 died between 13 and 14 months old.
—
24

It will be further observed that right on from the beginning of the experiment eggs were continually laid—the beetles laying continually for a whole year. The tubes containing the beetles were kept in the warm months of the year in an unheated room, but on the coming of cold the tubes were kept in my study, a room where there was a fire in the daytime. In some of the tubes examined in December 1906 there was much mould, the result of the moisture inherent in the grain with the frass or excrement of the feeding grubs and adult weevils.

THE BEAN BEETLE—*Bruchus rufimanus.*

A sample of beans intended for seeding was sent to me very badly infested with this beetle. The beans showed the characteristic little round patch on the outer skin, below which the beetle on dissection was found lying. Infested seeds should not be sown unless previously treated, as the beetles will issue in due course and proceed to their egg-laying on the very young pods, pushing their way into the blossom for this purpose. Very badly infested seed—I have found some that contained as many as five beetles—may not germinate, and even if germination does take place the germination stage may be lengthened out and the resulting plant be poor.

Remedial Measures.

As I mentioned in last year's 'Transactions,' the pest may be killed in the bean by fumigating with bisulphide of carbon. The method is to enclose the beans in an air-tight box and then to place some bisulphide of carbon in a saucer or saucers laid on the top of the beans. Keep the air-tight receptable shut for forty-eight hours. If large quantities are being dealt with, 1 lb. of bisulphide of carbon will do for 100 bushels of seed; for smaller quantities 1 ounce of bisulphide of carbon to every

100 lb. of seed. This treatment has best results as soon after harvesting as possible, when the temperature is not too low. The fumes of bisulphide of carbon are poisonous and easily inflammable, therefore they should not be breathed by the operator, nor should a naked light of any kind be brought near them.

Where beetles are noticed in the beans at the time of sowing, they may be killed by dipping the seed for five seconds in boiling water; the seed is then passed through cold water before sowing.

THE PINE SAW-FLY—*Lophyrus pini.*

Several times during the summer the caterpillars of this saw-fly were sent to me as destructive to the leaves of the Scots and Austrian pine. The caterpillars which come from eggs laid in the needles of the tree are social, feeding together in clumps.

As the infested plants are often not very tall, the caterpillars come within reach of treatment, so that they may be squeezed or crushed in the gloved hand, or between two small flat boards fitted for the purpose. They can also be jarred or shaken down off the trees. The caterpillars are light-green to begin with; are, later, brown-green with dark markings down the sides of the body; the head is dark-brown; there are twenty-two legs.

Parthenogenesis in the Pine Saw-fly.

Parthenogenesis, or virgin birth, the hatching out of eggs that have not been fertilised, is a normal phenomenon in certain insects—*e.g.*, the Aphides. In the Order Hymenoptera to which the Pine Saw-fly belongs, parthenogenesis is well known, and to clear up the point in the case of the Pine Saw-fly I last year made a series of experiments. During the winter of 1904-05 I obtained many cocoons of the Pine Saw-fly. These I arranged in spring under a series of glasses—one cocoon under each glass—for the issue of the adult insects. Altogether, I bred out 15 males and 101 females. The males, as each appeared imprisoned under the glass, were placed in alcohol, while the females were saved for experiment. I need not describe the details of the method of experiment, save to say that in every case the pines with which the virgin females were imprisoned were live young plants, from four to six years of age. The females laid eggs in many cases. Sometimes the eggs remained unhatched, but in a large number of cases caterpillars duly hatched, and after feeding greedily pupated in their cocoons. In one case where five females had been placed on a pine in the last week of April, the eggs laid hatched out in May. Between July 1 and July 8 four of these caterpillars were full grown and had made their cocoons. There issued four males from these—viz., one male on July 21, one on July 22, one on July 23, one on July 24.

Again, on July 19 six virgin females were imprisoned with a pine. Eggs were freely laid. Hatching of eggs followed, and so numerous and greedy were the caterpillars that before the experiment was terminated three other young pines had to be introduced to provide food for them. On September 26 the first cocoon was got, and by October 7, when I ended this experiment, I had 123 cocoons. In addition, there were still feeding caterpillars which had not completed their growth. The 123 cocoons were kept over the winter. The first adults issued on the 1st of June, and by the end of July 102 had appeared, all males. As I had to be away from home for a month, I dissected the remaining cocoons and in every case found a male.

I have mentioned above that parthenogenesis is prevalent in the Order Hymenoptera. The progeny in some species consists both of males and females, as in the Cynipidæ; in some saw-flies from parthenogenetic eggs only females result; in the Pine Saw-fly, males only.

While parthenogenesis is occasional with some Hymenoptera it plays an important part in continuing the species in others. Various problems are suggested by parthenogenesis, and different theories have been put forward to account for it.

In the case of the Pine Saw-fly I do not know that there has been any observations made and recorded as to the relative number of the sexes. In my own general field work with the Pine Saw-fly, I have found when I have bred out the adults from collected cocoons, or after feeding the caterpillars collected in the open, that both males and females were represented, but in the example quoted at the beginning of this note on parthenogenesis, it is interesting to observe that out of the collected cocoons which provided the material for my experiments there were only 15 males to 101 females.

THE LARGE LARCH SAW-FLY—*Nematus Erichsoni.*

The most salient feature in forest entomology for the past year was the devastation on larch in Cumberland by the larvæ of the large Larch Saw-fly. This insect had previously not been mentioned even by name in the literature of wood or forest injury in Britain, and yet its ravages recently in Cumberland have been most harmful. Careful outlook should be kept, therefore, so that the insect be checked at once should it appear elsewhere.

The adult large Larch Saw-fly measures up to ⅜ of an inch in length, and in spread of wings just less than an inch. The ground colour is black. The head and thorax are black; the first joint of the abdomen is black; then follow joints coloured

red; the end of the abdomen is black. The mouth parts, the two front pairs of legs, except at the part nearest the thorax, and the upper parts of the femora of the hind legs, are reddish or reddish-yellow. The tibiæ are yellowish or pale in the upper parts. The antennæ are nine-jointed and somewhat thick, and taper towards the apex. With a lens the head and thorax are seen to be sparsely and finely pubescent, and the thorax is markedly punctured. The wings are glassy and slightly clouded below the stigma.

The full-grown caterpillar measures three-quarters of an inch or a little over in length. It has a round, black, hairy head. On the upper surface, all down the back the colour is grey-green; the sides are lighter; the under surface is yellowish-green. On the abdominal segments, transverse rows of minute warts with spines may be seen with a lens. The spiracles along each side are brown. The legs are 20 in number—viz., 3 front or thoracic pairs, which are black, and 7 pairs of abdominal legs, which have the colour of the underside of the body.

The castings (excrement) of the caterpillar, which, found under the trees, would be a guide to the presence of the enemy, are longish, cylindrical, and somewhat square cut at the ends.

The cocoon, strong and leathery or parchment-like, is dark-brown in colour; it is cylindrical in shape, with rounded ends; the outside shows a raised network pattern, while the inside is smooth. On an average, the size may be taken as between ⅜ of an inch and ½ an inch.

Life-history and Habits.

The caterpillars winter under cover of the cocoons, and pupate, generally speaking, in May or June, according to the conditions. Probably the adults begin to issue in June. The eggs are laid in one or two rows on the youngest larch shoots, in slits in the bark made by the saws. The shoots, as a result, may curl somewhat. As the embryo develops, the slits in the shoots gape a little, and through the oval hole the caterpillar creeps, on hatching. The caterpillars may begin by gnawing the single leaves on the young shoot, but they soon pass to the clusters of needles on the dwarf shoots. Single leaves may be eaten, so that the edges appear serrated; or the clusters of leaves may be half eaten, or quite destroyed, so that only stumps are left.

In the young condition the caterpillars may be found in clusters. They assume various positions, arranged with the tail-end curled round the shoot, or like a mark of interrogation or the letter S; or (a characteristic attitude) with the hind half of the body turned upwards and over the front half. The larvæ are to be found at work during the summer, and most numerously in July and the first fortnight of August. By the end of August most have left the trees. Some, however, do not complete their growth until September. When full-fed the caterpillars leave the trees and pass into the moss or litter or the soil, and in such shelter-places make the cocoon in which they pass the winter.

Attack may be on young plants, but it is more frequently on older and taller trees. In Cumberland the trees infested were from twenty to seventy years of age.

Preventive and Remedial Measures.

1. As against the adults scarcely anything can be done effectively. They lay high up, well out of reach, so that the placing here and there of tarred boards standing erect, and with the tar frequently replenished—a measure sometimes practised against saw-flies that lay on young plants—cannot be tried with hope of success.
2. If young trees chance to be infested with the caterpillars, these caterpillars — especially when they are small and in clusters—should be crushed in a gloved hand or rubbed off the shoots into a small hamper; or badly infested shoots could be snipped off or cut through and dropped into the hamper. The contents of the hamper are then emptied on to a slow-burning fire. This measure, practised successfully against the Pine Saw-fly, will often be quite impracticable against the caterpillars of the large Larch Saw-fly, feeding as these do out of reach.
3. Jarring, so as to shake down larvæ, would meet with most success on a dull day or early in the morning, when the caterpillars are cold and sluggish.
4. Where the caterpillars are out of reach, and the tree attacked is isolated, or where the infestation is limited, the trees should be sprayed with hellebore, or Paris green, or arsenate of lead.
5. When infested trees are felled, the dislodged caterpillars should be destroyed.
6. The cocoon stage comes within reach of practicable treatment if the infested area be not too wide. The litter and the surface soil below trees that were attacked could be ploughed in deeply so as to bury the cocoons; or, in a prescribed area, boys could be employed to collect the cocoons. The soil and litter might be collected in little heaps; then quicklime could be placed on these, followed by a sprinkling with water, when the heat engendered would kill the enclosed caterpillars.
7. There is some help from Nature, as some birds eat the caterpillars, while parasitic ichneumon flies are their active enemies.

MILK RECORDS.

By JOHN SPEIR, Newton, Glasgow.

FOURTH SEASON—Giving the yield in Milk and Butter-fat of 2688 Cows.

DURING the year 1906 there was a considerable increase in the number of owners of stock desirous of having their herds tested under the scheme of the Society. The work was carried out in the following districts:—

District.	No. of herds.	No. of cows.	Interval of tests.	Period over which the testing extended.
			Days.	Weeks.
Cumnock	12	353	14	37
Dumfries	22	742	28	32
Fenwick	18	455	21	51
Rhins of Galloway . .	12	537	14	26
Stewartry	12	601	21	34
Total	76	2688	...	...

In only one district—that of Fenwick—have the tests been continued throughout a full year. In the other districts a good part of the season has often been lost before a start could be made. In some cases the arrangements were not sufficiently advanced to permit of a start in time, while in others it was purposely delayed in order to reduce the expense. In the districts of smaller herds the expense is a considerable item, especially when reckoned per cow. The increased return obtained from one average cow over that of a single poor one which has been got rid of, will more than pay all the expense of testing the whole herd. In even the smallest of the herds one or more poor cows have been disposed of, and in several the number has been considerable.

Interval between Tests.

The natural desire to reduce expense has led to an increase of the interval between the testings at several of the stations. In order to find out what might be the probable error from this extension of the interval, I have spent a considerable time in comparing daily weighings with those taken every 7th, 14th, 21st, or 28th day. For this purpose details have been obtained from the Dairy School at Kilmarnock, where the milk of each cow was weighed and sampled twice daily from 1st April to the end of September. Very valuable details have also been obtained from Mr James L Duncan, late of Bute, and now in charge of the farm school at Clonakilty, Co Cork, belonging to the Department of Agriculture and Technical Instruction for Ireland. A similar set of figures have also been received from Mr Robert Wilson, Burnhouse, Dunlop, for his small herd of eight cows

In the three foregoing cases weighing was done twice daily At Kilmarnock a sample of the milk was taken twice daily, but in the other two cases I have no knowledge of what was done in that respect Sir Hugh Shaw Stewart, Bart, has also furnished me with the figures of three of his cows, where the milk is weighed every seventh day From the material so provided it has been possible to construct tables showing the amount of milk certain animals in these herds would have been credited with had the milk been only weighed every 7th, 14th, 21st, or 28th day. In the case of the herds where no note was taken of fat in the milk, or if so was not given to me, the estimate of the yield by weighings at various intervals works out as follows:—

CLONAKILTY FARM SCHOOL HERD ACTUAL YIELD COMPARED WITH THAT ESTIMATED FROM EVERY 7TH, 14TH, AND 21ST DAY

No of cow	Milk weighed twice every day	Milk weighed every 7th day then multiplied by 7		Milk weighed every 14th day then multiplied by 14		Milk weighed every 21st day then multiplied by 21	
	Gallons	Gallons	Error	Gallons	Error	Gallons	Error
1	760 0	780 9	+20 9	771 0	+11 0	765 0	+ 5 0
2	860 0	851 6	− 8 4	847 0	−13 0	875 0	+15 0
3	969 7	973 0	+ 3 3	954 0	−15 7	986 6	+16 9
4	840 0	831 8	− 8 2	864 8	−24 8	827 0	−13 0
5	651 0	657 0	+ 6 0	682 0	+ 31 0	661 5	+ 10 5
6	666 0	645 8	−20 2	651 0	−16 0	657 3	− 8 7
7	632 3	649 2	+17 9	636 5	+ 4 2	658	+26 2
8	896 0	881 4	−14 6	890 3	− 5 7	912 0	+16 0
Average	784 4	783 8	− 6	787 1	+2 7	792 7	+8 3
Heifers							
9	481 0	476 0	− 8 0	480 9	− 3 1	489 5	+ 5 5
10	506 0	526 8	+20 8	511 0	+ 5 0	519 6	+13 6
11	453 2	461 8	+ 8 6	465 0	+11 8	450 6	− 2 6
12	408 2	409 5	+ 1 3	384 0	−24 2	415 0	+ 6 8
13	407 7	413 0	+ 5 3	401 6	− 6 1	405 4	− 2 3
Average	452 0	457 4	+5 4	448 5	−3 5	456 0	+4 0
Average of— Over estimates Under estimates The whole	656 5	658 3	+10 5 −12 0 + 1 8	656 9	+ 12 6 −13 6 + 4	663 3	+13 0 − 6 7 + 7 8

7-day Periods of Weighings.

In the 7-day interval the average error over 8 cows, compared with the actual yield, is only −·6 gallons; in the 14-day period the error is an increase of 2·7 gallons; and in the 21-day period the average error is an increase of 8·3 gallons per cow on the year. Taken over a sufficiently large number of animals, the errors would no doubt in great part disappear. The value of the milk records does not, however, lie in accurate averages for herds, but in reliable returns for each individual cow; and while the averages are interesting, they are almost useless in the present inquiry. The information wanted is the maximum amount of error per cow which may occur by estimating the yield of milk per annum from weighings at various intervals.

In the 7-day period the cows have varied from an over-estimate of 20·9 gallons to an under-estimate of 20·2 gallons, and the heifers from an over-estimate of 20·8 gallons to an under one of 8 gallons—the average being 10 to 12 gallons, or under 2 per cent of error.

In the Burnhouse herd a most unusual occurrence happens, —every estimate, for not only this period but for all the others, being under-estimates.

HERD OF MR ROBERT WILSON, BURNHOUSE, DUNLOP.

No. of cow.	Milk weighed twice every day.	Milk weighed every 7th day, then multiplied by 7.		Milk weighed every 14th day, then multiplied by 14.		Milk weighed every 21st day, then multiplied by 21.		Milk weighed every 28th day, then multiplied by 28.	
	Gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.	Estimated gallons.	Error in gallons.
1	1216	1161	−55	1161	−55	1141	−75	1151	−65
2	1077[1]	...	...	...	...	...	..	...	...
3	814	805	− 9	789	−25	803	−11	766	−48
4	908	892	−15	889	−18	868	−40	875	−33
5	992	959	−33	940	−52	934	−58	921	−71
6	838	829	− 8	815	−22	807	−30	784	−53
7	765	760	− 5	760	− 5	690	−75	735	−30
8	935	917	−18	901	−34	891	−44	868	−68
Average of 7	924	903	−21	895	−29	876	−48	871	−53

[1] Figures incomplete.

The variations for this herd are mostly wide, which, coupled with the fact that they are all under-estimates, seems to indicate some discrepancy in the results or extreme excitability among the cows. The average error is 21 gallons, about 2½ per cent on the quantity of milk, but the maximum error is 55 gallons on 1216 gallons—a deficiency of about 4½ per cent.

14-*day Periods of Weighing.*

In the 14-day period, the average of the whole herd at Clonakilty differed very little from the actual figures; but the average of the over-estimates was 12·6 gallons, while that of the under-estimates was 13·6 gallons, the maximums being double these figures in both cases. The variation between this period and the 7-day one does not exceed 2 gallons extra either way.

ARDGOWAN HERD, BELONGING TO SIR HUGH SHAW STEWART, BART.

	Milk weighed every 7th day, then multiplied by 7	Milk weighed every 14th day, then multiplied by 14.	Difference in gallons.
	Gallons.	Gallons.	
*Jessamine . .	1241	1257	+16
Dainty . .	594	626	+32
Bella . .	682	702	+20
Average . .	839	862	+23

* This cow is not in calf

The weight of milk here was estimated from weighings every 7th day, and when the 14th day estimates are compared with these, there is an average increase of 23 gallons of milk. This is a greater difference than at Clonakilty or at Burnhouse, and may be accounted for by the small number of animals on which it is based, as the maximums are just about the same as at these two places.

At Burnhouse the average error is 29 gallons per cow, or fully 3 per cent on the milk yielded, while the maximum error is about 4½ per cent of an under-estimate.

21-*day Periods of Weighing.*

At Clonakilty the average error during this period was only 7·8 gallons per cow per annum, while the average of the over-estimates was 13 gallons, and that of the under-estimates 6·7 gallons. These figures seem to indicate careful weighing and quiet-tempered cows.

At Burnhouse the average error during this period was 48 gallons of an under-estimate, the maximum error being about 1 per cent greater than for the 14-day period.

28-day Periods of Weighing.

These are comparable only for the Burnhouse herd. For this period the average error is not very much greater than for the previous period, but it will be noticed that it is almost double that of the 14-day period. The maximum errors are, however, scarcely so great as that for the 21-day period, but neither of these can be much relied on, owing to the small number of animals dealt with.

The Dairy School Herd.

During the period that the Dairy School was open, the milk of the whole herd of 42 cows was weighed and sampled twice every day from 2nd April to 29th September. For three-fourths of the cows the milk of each night and morning was not tested daily, but a sample was taken, all for each week being mixed together. This composite sample was tested at the end of each week. The whole of the daily weighings and testings of these cows have been sent to me, and I find that they afford an excellent opportunity of comparing the relative value of weighings at close and wide intervals. The results are given in gallons, calculated out to an equivalent of 3 per cent of fat, as being easier followed than where gallons and percentage of fat are given separately. The weight of milk yielded by a cow is much more steady and uniform than the percentage of fat. It is therefore natural to suppose that when the two are combined into the equivalent of milk of 3 per cent of fat, the variation will be greater than where weight of milk is alone taken into account. It may also be assumed that, where the percentage of fat in the composite sample is taken as the average for the week, the results will be much more uniform and steady than where the percentage of fat for one particular day is alone recorded, and calculated at that for the whole interval between the weighings.

From the following table it will be seen that the possibilities of error become greater as the intervals between the weighings and testings are widened. Not only is this clearly shown in the averages, but in the maximum errors above or below the actual amount. The proper method of estimating these is probably to add both the + and − figures together. These would seem to indicate that the possibilities of error are something like doubled when an interval of 7 days is compared with that of 21 days, or one of 14 days with that of 28 days.

RECORD OF THE MILK YIELDED BY CERTAIN COWS AT THE DAIRY SCHOOL, KILMARNOCK, WEIGHED AND TESTED EVERY DAY, COMPARED WITH AN ESTIMATE OF THE SAME FROM WEIGHING AND TESTING THE MILK EVERY 7TH, 14TH, 21ST, AND 28TH DAY.

No. of cow.	Actual milk of 3 °/o of fat in galls.	Every 7th day.		Every 14th day.		Every 21st day.		Every 28th day.	
		Milk of 3 °/o of fat in galls.	Error in galls.	Milk of 3 °/o of fat in galls.	Error in galls.	Milk of 3 °/o of fat in galls.	Error in galls.	Milk of 3 °/o of fat in galls.	Error in galls.
5	636	632	−4	635	− 1	660	+24	652	+16
11	565	556	−9	574	+ 9	583	+18	613	+48
20	608	599	−9	609	+ 1	634	+26	641	+33
30	736	733	−3	752	+19	779	+43	782	+46
37	673	666	−7	694	+21	714	+41	724	+51
Average of— The whole	643	637	−6	653	+10·0	674	+30·4	682	+39
Over-estimates			−6		+12·5 − 1 0		+30·4		+39
Under-estimates			−9		+21·0 − 1·0		+43·0		+51

COW 27, DAIRY SCHOOL.

Date.	Every 7th day.			Actual milk of 1 °/o of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 °/o of fat in lb.		Milk of 1 °/o of fat in lb.	Milk of 1 °/o of fat in lb.	Milk of 1 °/o of fat in lb.
1906							
April 25	34·75	3·55	123·36	826			
May 2	35·75	3·3	117·97	840	117·97		
" 9	34·75	3·4	123·36	799		123·36	
" 16	35·25	3·1	109·27	850	109·27		109·27
" 23	33·75	2·85	96·19	798			
" 30	39·75	3·22	127·99	985	127·99	127·99	
June 6	45·75	3·6	164·70	1172			
" 13	47·25	4·0	190·00	1056	190·00		190·00
" 20	43·5	2·8	121·80	944		121·80	
" 27	40·25	2·9	116·72	952	116·72		
July 4	36·75	3·45	126·79	825			
" 11	34·5	3·75	129·37	833	129·37	129·37	129·37
" 18	29·75	2·40	71·40	755			
" 25	30·75	2·85	87·64	678	87·64		
Aug. 1	27·5	3·60	99·00	537		99·00	
" 8	25·75	2·15	55·36	517	55·36		55·36
" 15	27·25	2·60	70·85	504			
" 22	27·25	2·35	63·94	501	63·94	63·94	
" 29	23·50	3·80	89·30	604			
Sept. 5	26·25	3·40	89·25	624	89·25		89·25
" 12	25·50	2·70	68·85	616		68·85	
" 19	26·50	2·95	58·17	508	58·17		
			2301·28 ×7		1145·68 ×14	734·31 ×21	573·25 ×28
						15,420·51 +407·19	16,051·00 +889·14
Lb. of milk of 1 % of fat			16,108·96	16724	16,039·52	15,827·70	16,940·14
" 3 % "			5,369·6	5575	5,346·5	5,275·9	5,646·7
Gallons of milk . .			536·9	557·5	534·6	527·6	564 6
Difference . . .			−20·6		−22·9	−29·9	+7·1

The milk record for the Dairy School herd was begun as much for the training of students in the weighing and testing of milk as for the obtaining of information regarding the herd. During the time the work was carried on, the milk of ten of the cows was *weighed and tested* at every milking between 22nd April and 22nd September. The particulars relating to five of these cows have been collected from the byre-sheets and tabulated in such a manner that the actual yield for the period under review may be compared with an estimate made of the quantity from weighings and testings taken at intervals of 7, 14, 21, and 28 days. For the purpose of comparison the particular day selected was Wednesday, as being the middle day of each recorded week, and as less liable to irregularity than those at the end or beginning of the week. Details for Cows 27, 28, and 30 are given in the tables.

COW 28, DAIRY SCHOOL.

Date.	Every 7th day.			Actual milk of 1 % of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 % of fat in lb.		Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb
1906							
April 25	35·75	3·10	110 82	800			
May 2	38·00	3·45	131·10	861	131·10		
" 9	36·00	2·85	102·60	842		102·60	
" 16	38·0	3·55	134·90	891	134·90		134·90
" 23	40·75	3·5	162·62	919			
" 30	33·50	2·3	77·05	893	77·05	77·05	
June 6	40·75	3·4	138·55	993			
" 13	36·5	3·3	120·45	927	120·45		120·45
" 20	36·0	5·65	203·40	867		203·40	
" 27	36·5	3·7	135·05	926	135·05		
July 4	31·25	3·15	98·44	825			
" 11	32·25	3·8	122·55	812	122·55	122·55	122·55
" 18	29·25	3·65	106·76	791			
" 25	29·50	3·95	116·52	781	116·52		
Aug. 1	29·00	3·95	114·55	736		114 55	
" 8	28·25	4 10	115·82	742	115·82		115 82
" 15	25·25	4·10	103·52	698			
" 22	27 00	3·80	102·60	722	102·60	102·60	
" 29	23·50	4·30	101·05	692			
Sept. 5	21·50	3·50	85·75	627	85·75		85·75
" 12	22·25	3·95	87·89	658		87·89	
" 19	22·25	3·80	74·45	593	74·45		
			2546·44 ×7		1216·24 ×14	810 64 ×21	579·47 ×28
						17,023·44 +521·15	16,225·16 +1,136·38
Lb. of milk of 1 % of fat			17,825·08	17596	17,027·36	17,544·59	17,361·54
" 3 % "			5,941·7	5865	5,675·8	5,848 19	5,787·18
Gallons of milk of 10 lb.			594·2	586·5	567·6	584·8	578·7
Difference . . .			+7·7		+18·9	−1·7	−7·8

Cow 30, Dairy School.

Date.	Every 7th day.			Actual milk of 1 % of fat in lb. per week.	Every 14th day.	Every 21st day.	Every 28th day.
	Milk daily in lb.	Per cent of fat.	Milk of 1 % of fat in lb.		Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.	Milk of 1 % of fat in lb.
1906							
April 25	35·25	2·75	96·94	706			
May 2	35·75	2·75	98·31	744	98·31		
" 9	36·75	3·00	110·25	787		110·25	
" 16	36·75	3·4	124·95	822	124·95		124·95
" 23	38·75	3·0	116·25	851			
" 30	44·25	2·3	101·77	659	101·77	101·77	
June 6	50·25	3·2	160·80	1033			
" 13	49·00	3·2	156·80	1124	156·80		156·80
" 20	50·00	3·05	152·50	1118		152·50	
" 27	47·5	2·95	140·12	1094	140·12		
July 4	41·25	3·40	140·25	1017			
" 11	41·75	3·60	150·30	980	150·30	150·30	150·30
" 18	32·5	3·60	117·00	966			
" 25	37·75	3·90	147·22	900	147·22		
Aug. 1	36·00	3·75	135·00	921		135·00	
" 8	35·00	3·90	136·50	876	136·50		136·50
" 15	30·25	3·65	110·41	832			
" 22	30·25	3·75	113·44	865	113·44	113·44	
" 29	33·50	4·20	140·70	792			
Sept. 5	26·50	3·85	102·02	747	102·02		102·02
" 12	32·00	3·80	121·60	775		121·60	
" 19	24·75	3·55	87·86	695	87·86		
			2760 99 ×7		1359·29 ×14	884·86 ×21	670·57 ×28
						18,582·06 +615·02	18,775·96 +1,466·22
Lb. of milk of 1 % of fat			19,326·93	19304	19,030·06	19,197·08	20,242·18
" 3·8 % "			6,442·31	6435	6,343·35	6,399·0	6,747·39
Gallons of milk of 10 lb.			644·2	643·5	634·3	639·9	674·7
Difference . . .			+·7		−9·2	−3·6	+30·2

The number of cows for which the details have been worked out is too limited to afford a sufficient basis for definitely determining the errors likely to arise from widening the interval between the weighings and testings. Some cows give a tolerably uniform quantity and quality of milk, while others are more subject to irregularities, arising it may be from temperament, bad health, feeding, or climatic influences, and it is clear that the possibilities of error from these irregularities become greater as the intervals are widened. For instance, if the column containing the weight of milk of 1 per cent of fat be scanned in the foregoing tables, it will at once be seen how great these irregularities may at times amount to. Cow No. 28 is the most pronounced in that respect, while No. 30 is the least. Any interval which includes one or more of the dates on which abnormal amounts were recorded will cause the estimate to differ from the actual amount in proportion to the number of these dates. The following table shows the averages and maximum errors of the estimates of the yield of milk of these five cows, made up from weighings at various intervals:—

RECORD OF THE MILK YIELDED BY CERTAIN COWS AT THE DAIRY SCHOOL, KILMARNOCK, WEIGHED AND TESTED EVERY DAY, COMPARED WITH AN ESTIMATE OF THE SAME FROM WEIGHING AND TESTING THE MILK EVERY 7TH, 14TH, 21ST, AND 28TH DAY.

No of cow	Actual milk of 3 % of fat in galls of 10 lb.	Every 7th day.		Every 14th day.		Every 21st day.		Every 28th day.	
		Milk of 3 % of fat in galls. of 10 lb.	Error in galls.	Milk of 3 % of fat in galls. of 10 lb.	Error in galls	Milk of 3 % of fat in galls. of 10 lb.	Error in galls.	Milk of 3 % of fat in galls of 10 lb.	Error in galls
27	557·5	536·9	−20·6	534·6	−22·9	527·6	−29·9	564·6	+ 7·1
28	586·5	594·2	+ 7·7	567·6	+18·9	584·8	− 1·7	578·7	− 7·8
30	643·5	644·2	+ ·7	634·3	− 9·2	639·9	− 3·6	674·7	+30·2
31	532·0	527·0	− 5·0	521·0	−11·0	518·0	−14·0	523·2	− 9·0
32	495·5	510·0	+15·0	519·0	+24·0	502·3	+ 7·3	513·5	+18·0
Average of— The whole	563·0	562·5	− 0·3	555·3	− 7·7	554·5	− 8·5	572·9	+ 9·9
Over-estimates	..	..	+ 7·8		+21·4	.	+ 7·3		+18·4
Under-estimates	...	..	−12·8		−14·4		−12·3		− 8·4

If the five cows in the above table be taken as a fair guide as to how irregularities in the cows affect estimates based on the various intervals, they would seem to indicate that the possibilities of error are not so great as was inferred from the previous five cows. They, however, correspond very closely with the maximum differences of the Clonakilty herd, based on the weight of milk alone.

In order to increase the number, and so to some extent get rid of the irregularities which show themselves in the yield of milk of every cow, I have gathered all the herds together into one table for the purpose of ascertaining the probable errors that may occur under estimates made on a basis of weighings and testing made at various intervals. The table on next page gives this information.

The table gives an indication of the extent of the errors which may be expected as the result of weighings at various intervals. A greater number of cows would have been desirable, but at the moment there is no time to prepare statements for a greater number. The following will, however, be some guide to associations when in doubt as to the interval they should adopt between their weighings and testings. Had all the cows from which the figures are taken had their milk

TABLE ILLUSTRATING THE PROBABLE AVERAGE AND MAXIMUM ERRORS IN GALLONS WHICH MAY RESULT FROM INCREASING THE INTERVALS BETWEEN THE WEIGHINGS AND TESTINGS.

Name of the herd.	No. of cows in the herd.	7-day interval.					14-day interval.					21-day interval.					28-day interval.				
		Total for the whole herd.			Maximum errors in galls.		Total for the whole herd.			Maximum errors in galls.		Total for the whole herd.			Maximum errors in galls.		Total for the whole herd.			Maximum errors in galls.	
		Average errors in galls. of milk.*					Average errors in galls. of milk.					Average errors in galls. of milk.					Average errors in galls. of milk.				
			+	−	+	−		+	−	+	−		+	−	+	−		+	−	+	−
Clonakilty .	13	23·4	^{8†}84·0	^{5}60·0	20·9	20·2	5·2	^{5}62·5	^{8}108·8	31·0	24·8	101·4	^{10}130·0	^{3}20·1	26·2	13·0	...	...	...	...	...
Burnhouse .	7	147·0	...	^{7}147·0	...	55·0	203·0	...	^{7}203·0	...	55·0	336·0	...	^{7}336·0	..	75·0	371·0	...	^{7}371·0	...	71·0
Dairy School	5	30·0	...	^{5}30·0	...	9·0	50·0	^{4}50·0	^{1}1·0	21·0	1·0	152·0	^{5}152·0	...	43·0	...	195·0	^{5}195·0	...	51·0	...
Dairy School	3	4·0	^{2}8·4	^{1}20·6	7·7	20·6	51·0	^{1}18·9	^{2}30·0	18·9	22·9	35·1	...	35·1	...	29·9	30·6	^{2}37·2	^{1}7·8	30·2	7·8
Totals for	28	204·4	^{10}92·4	^{18}257·6	^{2}28·6	^{4}104·8	309·2	^{10}130·4	^{18}312·8	^{3}70·9	^{4}103·7	621·5	^{15}282·0	^{13}391·2	^{2}69·2	^{3}117·9	596·6	^{7}232·2	^{8}378·8	^{2}81·2	^{2}78·8
Per cow .	...	7·3	9·2	14·3	14·3‡	26·2‡	11·0	13·0	19·0	23·6	25·9	22·3	18·8	30·0	31·6	58·9	21·3	33·2	47·4	40·6	39·9
Average error increased 50 % for every 7 days of interval between the weighings and testings after the first seven.							10·9	...	...	...	...	16·4	...	...	...	...	24·6	...	...	...	...
Probable amount by which the over-estimates exceed the actual yield on the average of these.							...	13·8	...	...	...	...	20·7	...	...	...	...	31·0	...	...	...
Probable amount by which the under-estimates are likely to be below the actual yield on the average of these.							...	...	21·4	...	...	...	...	32·1	...	...	...	..	48·1	...	...
Probable error calculated from the mean of the maximums. This may be above or below the actual amount.							...	...	...	22·5		...	...	...	33·7		...	...	...	50·5	

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* The gallons are milk of 3 °/₀ of fat.

+ represents errors in the estimates in excess of the actual yield of milk. − represents errors in the estimates which are below the actual yield of milk.

† The small figures above the ordinary lines indicate the number of cows to which the figures below apply.

‡ The sum of these two is 30·5, but if 15 is taken as the mean, and increased by 50 % for each interval of seven days, this allowance will likely be sufficient to meet all ordinary irregularities.

tested at each milking, the deductions drawn from them would have been much more reliable. They are there, however, for what they are worth.

Milk Records for each Herd.

Owing to the increase in the number of cows now being tested, it has been found impracticable to embrace the full details of each herd in this report. These details, together with the matter given here, will be issued in a separate print with as little delay as possible.

AYRSHIRE AGRICULTURAL ASSOCIATION (CUMNOCK).

Under this Association twelve herds, in the parishes of Cumnock, Ochiltree, and Coylton, were tested, the expert in charge being John H. Wyllie. This is the second year during which testing in this district has been carried on. Hitherto the outlays have been entirely paid by the Highland and Agricultural Society and the Ayrshire Agricultural Association. The only expense which the owners of the herds were called on to meet was that of providing food and lodging for the expert, and of conveying him and the testing appliances from farm to farm. The following is a list of the owners of the herds tested, arranged in the order in which they were visited by the expert:—

Michael Logan, Bargenoch, Coylton.
Messrs Knox, Lane, Coylton.
Hugh Smith, Whitehill, Coylton.
R. Steele, M'Quittiston, Ochiltree.
A. W. Montgomerie, Lessnessock, Ochiltree.
Andrew Wilson, Finlaystone, Ochiltree.
D. & H. Wilson, Auchencloich, Ochiltree.
Robert Vallance, Calton, Cumnock.
J. H. Stevenson, Rottenyard, New Cumnock.
A. M. Baird, Garclaugh, New Cumnock.
W. Sloan, Castlemains, New Cumnock.
James Donaldson, Auchencross, New Cumnock.

Testing began on 20th March and continued to 3rd December, covering a period of 38 weeks, each farm being visited every 14 days. In order to give a fairly full record of the milk production of the cows, testing should have begun at the 1st of March, as too many of the cows had been calved over 14 days before the herds were first visited. For herds of the class of those in this district, an endeavour should be made to begin with the first farm when between one-third and a half of the cows are calved. With this done, from a half to three-fourths of the cows will be giving milk by the time the last farm is reached, and if continued till about the same date as this year, a period of from 41 to 42 weeks will be covered. Such an interval, while it may not embrace the full period of lactation of every cow, will give a pretty full record of about three-fourths of them.

There were 353 cows tested in this district, the herds here being somewhat smaller than those in several of the other districts reported on. Some of the herds here did remarkably well last year, but this year they have done even fully better than the previous one. The period covered is this year a month longer than in 1905; but even with that taken into account the results are very satisfactory, and had an extra month been taken advantage of at the beginning of the season, they would have been much more so. All the farms are largely devoted to breeding, the milk being principally made into cheese, but in one or two instances it is sent by rail to Glasgow. This is a typical district for carrying on work of this kind, and, fortunately, the farmers of the district are fully alive to the advantages to be gained from it, so that its influence should gradually show itself in improvement in the milk-yield of the herds.

The following are some of the most profitable cows:—

24 OF THE MOST PROFITABLE COWS IN THE CUMNOCK DISTRICT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat.			Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£	s.	d.				
D	13	920	38·6	4·5	1382	28	15	10	9	L	April 10	...
N	19	967	38·0	4·2	1355	28	4	7	6	L	" 5	...
N	13	1099	56·9	3·6	1318	27	9	2	9	L	June 6	...
D	14	801	33·7	4·6	1245	25	18	9	9	L	April 11	...
N	2	977	35·7	3·7	1204	25	1	8	9	L	Feb. 19	. .
N	7	959	35·7	4·2	1195	24	17	11	5	L	March 8	...
N	30	857	41·3	3·9	1147	23	17	11	3	L	May 9	...
N	25	831	30·8	4·1	1136	23	13	4	3	M	Feb. 13	...
L	20	726	30·5	4·6	1114	23	4	2	6	L	March 23	...
F	8	892	33·6	3·6	1091	22	14	7	10	...	" 4	...
J	6	837	31·5	3·8	1067	22	4	7	6	M	" 5	...
N	15	837	39·3	3·8	1061	22	2	1	7	M	May 18	...
N	23	874	36·0	3 6	1049	21	17	1	10	L	Feb. 14	...
N	16	774	31·7	4·0	1032	21	10	0	6	M	" 20	..
F	14	825	31·0	3·7	1028	21	8	4	6	...	March 20	...
D	11	724	28·7	4·1	1005	20	18	9	11	L	Jan. 27	...
J	33	783	33·0	3·5	999	20	16	3	8	L	April 10	. .
N	21	906	35·8	3·3	997	20	15	5	11	L	Feb. 24	...
D	19	858	32·3	3·4	994	20	14	2	7	M	Jan. 27	...
D	10	835	31·3	3·5	987	20	11	3	6	L	Feb. 28	...
N	3	775	36·9	3·8	986	20	10	10	6	L	May 14	...
N	29	721	27·3	4·1	985	20	10	5	3	L	March 23	...
J	27	790	29·6	3·8	979	20	7	11	11	L	" 12	...
A	18	890	33·5	3·2	967	20	2	11	6	L	" 16	...

The best cow in this list has only the produce of 34 weeks milk put to her credit, as she was uncalved at the first two visits of the expert, and on the last occasion on which she was tested she was giving 2 gallons of milk per day of an average of 5·1 per cent of fat. Notwithstanding this good result, this cow was served about seven weeks after calving. Had it been convenient to carry on the work long enough to give a complete record of this cow's milk, she would have given as much by that time as two cows in many ordinary herds. The high percentage of fat in the milk produced by a considerable number of the cows in this herd is rather remarkable. The remarks which have been made regarding cow D 13 apply in a somewhat less degree to cow N 19, the milk of which has been recorded for 34 weeks, and which was served within eight weeks after calving, and at the last visit of the expert gave almost 1½ gallon of milk per day of an average percentage of fat of 4·9. Cow N 13 is also a remarkable cow. Her milk was only weighed for 26 weeks, but over that period she gave an average of 56·9 lb. of milk daily. She was served two months after calving, yet on 5th December she yielded 39·4 lb. of milk of 3·1 per cent of fat, which is the lowest percentage of fat she gave during any of the dates on which her milk was tested. Over a period of six testings after calving, with intervals of 14 days, this cow gave from 65 lb. to 70 lb. of milk per day; the lowest percentage of fat was 3·7 and the highest 4·5.

As is nearly always the case, every other herd contains some specimens of the unprofitable cow. The following are a few of those:—

SOME OF THE LEAST PROFITABLE COWS IN THE CUMNOCK DISTRICT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d per gall. for milk of 3 % of fat			Age of cow.	Size of cow.	Date of calving.	REMARKS
						£	s.	d.				
A	2	339	17·3	2·9	335	6	19	7	12	L	Feb. 10	...
E	22	356	17·0	3·3	394	8	4	2	6	S	April 19	..
E	27	362	18·4	3·3	400	8	6	8	7	M	May 14	..
M	6	322	17·7	3·9	425	8	17	1	10	..	Feb. 24	.
A	10	407	19·4	3·2	435	9	1	3	11	L	" 16	...
B	11	395	20·2	3·4	450	9	7	6	7	L	" 25	...
J	42	387	19·8	3·5	451	9	7	11	9	L	March 25	Dry, early in Oct.

In even a good milking herd, no one need be surprised at a few animals turning out indifferent milkers. The worst of these should be weeded out when young, say at 3 or 4 years old, and not kept till they are 10 or 12 years old, as seems to have been the case with several animals in various herds.

The average yield of 3 per cent milk of the 7 cows in the above table is 413 gallons of milk—an amount which certainly will not pay expenses, leaving profit out of account. I am not inclined to put too much stress on comparisons between herds in different parts of the country, but this is an instance where the owners of these herds might profitably compare their circumstance with those of their neighbours, and see if there is anything in the soil or situation to account for the inferiority of these animals. On two of these farms there are two animals on which their owners must have lost more during the time they have had them than would have paid for the testing of their whole herd for many years. The probability is that these cows have fairly good bodies, and owing to the small quantity of milk they yielded, they might generally remain in good condition. Their owners might know that they were not particularly good milkers, but it is almost a certainty that had they been aware that they were so unprofitable as they seem to be, they would not have been kept on so long as they have. Their good looks have saved them, while other better milkers, with less appearance, have evidently been sacrificed.

The heifers are a particularly good lot. There were 84 of them, of which 70 were three-year-olds and 14 were two-year-olds. For 12 of this number, with several close behind, to be able to yield from 716 gallons of milk of 3 per cent of fat up to 1147 gallons in the period during which they were under test, clearly indicates the possibilities of the breed, and holds up for our admiration an ideal after which every breeder can strive, even although he may not be able to attain to it.

12 OF THE MOST PROFITABLE HEIFERS IN THE CUMNOCK DISTRICT.

	No. of cow.	Total milk in galls.	Average milk per day in lb	Average per cent of fat.	Total milk of 3 of fat in galls	Value of the produce at 5d. per gall for milk of 3 % of fat.			Age of cow.	Size of cow.	Date of calving.	REMARKS
						£	s.	d.				
N	30	857	41·3	3·9	1147	23	17	11	3	L	May 9	
N	25	831	30·8	4·1	1136	23	13	4	3	M	Feb. 13	
N	29	721	27·3	4·1	985	20	10	5	3	L	March 23	
N	26	743	27·7	3·9	965	20	2	1	3	M	Feb	
N	24	612	25·4	4·4	897	18	13	9	2	L	April 16	
D	17	513	19·3	4·9	836	17	8	4	3	L	Jan. 15	
N	22	628	25·9	3·8	795	16	11	3	3	L	Dec. 27, 1905	
D	25	498	19·8	4·7	789	16	8	9	3	M	Jan. 2	. .
J	17	597	23·7	3·8	755	15	14	7	3	L	March 12	...
D	26	473	18·8	4·7	743	15	9	7	3	M	Dec. 10, 1905	Dry, middle of Nov.
H	29	566	27·0	3·8	717	14	18	9	3	M	May 10	.
J	10	602	22·6	3·5	716	14	18	4	3	L	March 15	

The heifer N 30 had her milk weighed and tested for 28 weeks only: had her yield for the whole period of her lactation been included, it would have amounted to a very large quantity, and might have run some of the better cows very closely. At the last weighing on 5th December, this heifer gave 29·7 lb. of milk of an average of 3·9 per cent of fat. For three testings, between 6th June and 4th July, she gave 57 lb., 57·5 lb., and 55 lb. of milk, averaging 4·0 per cent of fat on two occasions and 3·5 per cent on the other. There is a big field here for watching the breeding of the best animals; for, owing to the age at which bulls are generally discarded in Ayrshire, many of the best breeding bulls, from a milking point of view, must have been slaughtered long before their good qualities had become known.

THE DUMFRIESSHIRE DAIRY FARMERS' ASSOCIATION.

The work under this Association embraced 22 herds in the valleys of the Nith and Annan, the number of cows being 742.

Testing began on 2nd April, and was continued till 10th November, extending therefore over a period of 32 weeks, and embracing 8 visits to each farm. All the herds were either devoted to cheese-making, or cheese-making and milk-selling, or milk-selling alone. The most of the cows on nearly all the farms had been in milk for a considerable time before the work began, so that the time covered by the testing did not embrace the full period of lactation of the majority of the cows. When the work ceased, about three-fourths of them were giving a very small quantity, usually under a gallon per day, and before another visit could have been made to all the herds, a large proportion of them would have been dry. If the work of this Association had begun a month earlier, practically the whole milking period of a very large number of the cows would have been embraced in a period of nine months. For this reason the total yield of many of the herds does not seem so large as it in reality was, because a month at the beginning of the period of lactation adds as much to the total produce of the cow as from two to three at the end. In order, therefore, that individual cows and herds may have every facility given them to exhibit their full milk-producing powers, testing should be begun at the earliest possible opportunity. The herds tested are owned by—

William Lindsay, Cogries, Beattock.
William Mackie, Wamphray Gate, Wamphray.
Sir R. W. Buchanan-Jardine, Saughtrees, Lockerbie.
J. S. Paterson, Quhytewoollen, Lockerbie.
James Edgar, Castlehill, Lockerbie.

James Wyllie, Bankhead, Lochmaben.
John Paterson, Mouswald Grange, Ruthwell.
John Wilson, Boghead, Dumfries.
John Wilson, Tinwaldshaws, Dumfries.
James Lamberton, Sandbed, Dumfries.
James Sloan, Cormaddie, Holywood.
Robert Millar, Lakehead, Closeburn.
W. Niven, Barnmuir, Closeburn.
William Sloan, Shawsmuir, Closeburn.
Robert Primrose, Kirkland, Closeburn.
John Laidlaw, Glengar, Penpont.
J. R. Wallace, Auchenbainzie, Thornhill.
Thomas Brown, Drum, Thornhill.
A. Stevenson, Muiryhill, Thornhill.
James Moffat, Gateside, Sanquhar.
A. M. Dickie, Tower, Sanquhar.

All the herds are breeding ones, and both valleys are the very districts in which such organisations should flourish. The success of this scheme, as that of many others elsewhere, in great part depends on the enthusiasm and energy of those in charge of it, coupled with the class of farmers who are appealed to. While a few are very desirous of carrying on the work in this district, the majority are rather indifferent, and the work has again ceased for a second time. Intermittent testing in this way gives some information, but it is small compared with what it would be were the work carried on steadily and continuously. Instead of one testing-station serving the two valleys, each valley should have several for itself; and I hope the day is not far distant when this will be the case.

The Secretary of the Association is Mr John Henderson, Lockerbie, and the expert in charge was R. Richardson. Several of the herds in the Association this year were tested in 1903,—the first year in which this work was undertaken by the Highland and Agricultural Society. In that year the work was only carried on during 26 weeks, beginning early in May; this year it was carried on for 32 weeks, beginning in April. In 1903 there were only 3 cows, all in different herds, which had a yield of over 900 gallons of milk of 3 per cent of fat; whereas on this occasion, with the slightly longer period, there are 22; while 1 cow yielded over 1200 gallons of milk of 3 per cent of fat, another over 1100, 3 over 1000, and 17 between 900 and 1000. This is a very material improvement on the returns of 1903, which were then thought very good, but I have no doubt that the information gained last summer will permit of still greater increases. Owing to the period over which the testing extended being longer last year than in 1903, no reliable comparison can be made, but it seems as if the general average was better last year.

2 PER CENT (15) OF THE BEST COWS IN THE DUMFRIESSHIRE ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat.			Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£	s	d.				
L	31	931	41·6	3·90	1203	25	1	3	7		April 10	..
O	20	792	35·4	4·4	1127	23	9	7	7	L	March 4	..
S	19	862	38·5	3·7	1055	21	19	7	7	M	April 3	..
O	2	848	37·8	3·8	1054	21	19	2	9	M	March 20	...
L	33	792	35·3	4·0	1037	21	2	1	5	...	"	...
N	17	808	36·0	3·7	992	20	13	4	Aged	.	" 1	.
J	17	750	38·2	4·0	984	20	10	0	8		May 1	
O	27	774	34·6	3·9	962	20	0	10	5	S	April 12	
N	15	708	31·6	4·1	957	19	18	9	6	..	" 4	
O	15	667	29·8	4·3	955	19	17	11	11	M	Feb. 14	
N	19	742	33·1	3·9	939	19	11	3	8	..	March 26	
N	32	648	28·9	4·4	936	19	10	0	Aged	...	" 6	
J	11	701	31·3	4·0	933	19	8	9	14	...	April 9	..
O	30	627	28·0	4·6	926	19	5	10	5	M	" 1	...
J	10	759	34·0	3·7	924	19	5	0	12	...	" 15	..

While a large number of excellent cows have been tested this year, the work has also brought to light a still larger number of quite unprofitable animals. These, like the poor, seem to be always with us, and it is only by systematic work of this kind that they can be effectively eliminated. What is, however, very noteworthy is that, with one exception, none of the least profitable animals are on those farms which were tested in 1903. This seems to indicate that the owners of the herds which were tested on the previous occasion have realised the use of the records, and have got rid of their worst animals. This is as it should be, and it is to be hoped that it will continue.

SOME OF THE LEAST PROFITABLE COWS IN THE DUMFRIESSHIRE ASSOCIATION.

Farm.	No of cow.	Total milk in galls	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat			Age of cow	Size of cow.	Date of calving.	REMARKS.
						£	s.	d.				
P	10	207	12·3	3·8	257	5	7	1	4	L	Feb. 4	..
P	31	223	11·4	3·6	267	5	11	3	6	L	May 5	...
K	33	216	19·2	3·6	258	5	7	6	8	..	March 6	...
A	20	267	19·1	3·2	287	5	19	7	11	M	" 14	Dry, Sep. 1
M	26	360	21·4	2·3	292	6	1	8	4	...	April 12	...
V	7	247	12·6	3·7	294	6	2	6	4	...	March 9	Dry, Oc. 15
F	20	276	16·5	3·6	321	6	13	9	5	..	" 3	...
F	21	312	16·0	3·4	349	7	5	5	5	..	April 1	Dry, end of Sep.
F	26	281	16·7	3 9	363	7	11	3	5	.	" 12	...
B	22	322	14·4	3 6	382	7	19	2	9	..	Feb. 19	...
B	21	364	16·2	3·3	393	8	3	9	9	...	March 15	...

The heifers tested in 1906 compare very favourably with those tested for a similar number of weeks in other districts, and a large proportion of them should ultimately grow into very profitable cows.

SOME OF THE HEAVIEST MILKING HEIFERS IN THE DUMFRIESSHIRE ASSOCIATION.

Farm	No. of cow.	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3 % of fat in galls	Value of the produce at 5d per gall for milk of 3 % of fat			Size of cow	Date of calving	REMARKS
						£	s.	d.			
N	29	589	26·3	4·3	823	17	2	11		March 6	
R	52	543	24·2	4·4	783	16	6	3		" 3	Best cow in herd
L	21	564	25·2	4·2	762	15	17	6		" 8	
L	29	604	27·0	3·9	751	15	12	11		Feb. 25	
O	32	626	28·0	3·6	740	15	8	4	M	April 15	
O	24	583	26·0	3·9	735	15	6	3	M	March 31	
F	5	572	25·5	3·9	731	15	4	7	.	April 2	
L	10	551	24·7	4·0	730	15	4	2		March	
N	4	527	26·9	4·1	721	15	10	5		April 18	

Several of the farms had a very small proportion of heifers, and as showing the value of pedigree in this work, it is worthy of notice that the very best of these are, comparatively speaking, on a small number of farms. It is, however, gratifying to find that many good animals are fairly uniformly spread over the most of these farms.

SOME OF THE LEAST PROFITABLE HEIFERS IN THE DUMFRIESSHIRE ASSOCIATION

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3 % of fat in galls	Value of the produce at 5d per gall for milk of 3 % of fat			Size of cow	Date of calving	REMARKS
						£	s.	d.			
A	17	206	14·7	3·8	262	5	9	2	S	March 17	Dry, Sep. 1
N	24	234	13·9	3·9	296	6	3	4		April 21	
H	5	342	17·4	3·3	373	7	15	5	S	May 5	
H	21	283	13·4	4·2	385	8	0	5	M	March 29	

As is seen from the foregoing table, the number of poor milking heifers is very small. As showing how necessary it is to look after the poor ones, it will be noticed that one of the worst is in the same herd as that to which the best one belongs.

FENWICK FARMERS' SOCIETY.

This is the only society which up to the present has carried on milk records throughout the whole year. As far as one can judge, the value of this work has been more firmly grasped by the farmers of this parish than by those of any other. In nearly all the other districts some of the farmers invariably drop off every year, but here they stick well together, and this year have even set records agoing in a second group of 18 herds without any money grant from the Highland and Agricultural Society for this group. The great enthusiasm here is all the more creditable in view of the fact that the herds are smaller than in any other district where the milk records have hitherto been carried on. The interest shown in this work is well indicated by the following incident. A cottar was so anxious to have his only cow submitted to the test that, in order to get this done, his wife carried the milk of the cow over half a mile to meet the expert at each of his visits to a neighbouring farm. This cow turned out a particularly good one, and yielded during the season something like 1000 gallons of milk. It is not, however, recorded here, but a note was made each day of the result of the test.

The secretary of the Fenwick Society is Mr James Dunlop, Midland, Fenwick. The expert in charge at the beginning of the year was William M'Cleary, who had charge of the work in 1905. Early in autumn he was appointed manager of the Rowallan Creamery, when Hugh Stirling, who had received his training at the Dairy School, succeeded him.

The Fenwick Society is principally composed of farmers in the parish of Fenwick, between Kilmarnock and the borders of Lanarkshire. The district lies at a rather high altitude, much of it being from 400 to 600 feet above sea-level. Cheese-making used to be the principal industry of the district, but, with few exceptions, all the farms now send their milk direct to Glasgow or to the two collecting milk-depots in the district. Breeding is largely followed on every farm, and in a very few years the milk records should exercise a material influence on the herds in this district. The farmers here have entered into the movement not simply because they were asked to do so, or because one or more were wanted to complete the number sufficient to make a good group of herds, but because they think it will pay them to do so. The work has now been carried on without any break for over two years, and the more experience the people have of it the more highly they appreciate it.

The test in Fenwick in 1906 embraced 18 herds, the number of cows tested being 455. The test here is a 21-day one, which gives fair results, but they would be materially improved if the interval could be made 14 days instead of 21 days.

The following is a list of the owners of the herds tested:—

D. & J. Bickett, Raithmuir, Fenwick.
Andrew Clement of Netherton, Busby.
John Douglas of Langdyke, Fenwick.
James Dunlop of Gree, Fenwick.
James Dunlop, Midland, Fenwick.
James Garven, Dalmusternock, Fenwick.
John Gemmill, Aitkenhead, Fenwick.
James Howie, Hillhouse, Kilmarnock.
William Howie, Burnhouses, Kilmarnock.
James Lindsay, Blackbyre, Fenwick.
John Lindsay, Moss-side, Fenwick.
Robert Loudon, Harelaw, Fenwick.
Mrs Mather, Thorn, Fenwick.
David Murchland, Broadmoss, Fenwick.
A. B. Paton of Collarie, Fenwick.
George Retson, Gardrum, Fenwick.
William Wilson, High Todhill, Fenwick.
James Young of Hareshaw, Fenwick.

In order to complete the round in 1905, two weeks more than the year were entered in the books. As the totals were made up and checked before this was discovered, it was considered desirable to allow these to remain rather than make any alteration on the figures, although it undoubtedly had the effect of increasing the yearly yield beyond what it would normally have been.

For 1906 the period only extended over 51 weeks, so that the maximum results of individual cows are not so high as in 1905. When, however, the three weeks extra allowed last season has been deducted, the difference is very trifling.

12 OF THE BEST COWS IN THE FENWICK SOCIETY.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 of fat.			Age of cow.	Size of cow.	Dates of calving.	Weeks in milk	REMARKS.
						£	s.	d.					
P	26	1135	36·0	3·8	1445	30	2	1	...	L	May 23, 1905 April 5, 1906	3 42	
H	30	1186	40·3	3·5	1404	29	5	0	7	L	Nov. 14, 1905 " 19, 1906	36 6	
C	7	1160	50·2	3·6	1397	29	2	1	11	L	Feb. 12, 1906	33	
H	10	1120	33·1	3·6	1324	27	11	8	7	M	Mar. 12, 1906	42	
B	15	1001	31·8	3·9	1314	27	7	6	8	M	Dec. 10, 1905 Nov. 23, 1906	39 6	
H	19	1260	37·5	3·0	1263	26	6	3	7	S	Jan. 27, 1906	48	
I	19	963	28·6	3·9	1253	26	2	1	8	M	Dec. 6, 1905	48	
K	10	911	27·1	4·0	1233	25	13	9	6	M	Jan. 2, 1906	48	Aborted
K	3	907	30·9	4·1	1232	25	13	4	6	M	Feb. 1, 1906	42	
G	16	1027	28·8	3·6	1223	25	9	7	9	M	Jan. 20, 1906	51	
B	19	1037	38·0	3·5	1219	25	7	11	11	L	May 17, 1905 " 1, 1906	3 36	
B	17	939	31·9	3·8	1202	25	0	10	4	L	Oct. 1, 1905 Sept. 12, 1906	24 18	

As will be seen from the foregoing table, the manner in which it has been made up slightly differs from those of previous years. In the column for "Weeks in milk" the number of weeks is entered for each calving, during which the cow gave milk during the year. For example, take the first cow on the list, P 26. This cow has given milk for 3 weeks in 1906 after calving on 23rd May 1905. She then calved again on 5th April 1906, and yielded milk for 42 weeks of that year, or a total period of 45 weeks.

In the sheets for each herd, where the period of lactation extends over two years, the amount of milk yielded, and the number of weeks during which it was produced, are given on the first line, the total production for the year on the second line, and the amount and weeks in milk from the second calving are given on the third line. By another year it is hoped to make a further improvement in stating the results, as instructions have been sent to the expert to bring forward from last year any milk which a cow has yielded during its present lactation. In this way it will be possible to give in future not only the total milk yielded within the year, but also the quantity for each calving. The two methods of tabulating the results should not differ materially if the cow calves at intervals of about a year. While the lactation period is probably the more correct method of stating the results when the cow calves at intervals of about a year, it becomes very misleading whenever the period extends beyond the year.

The following is a list of those cows which have yielded under 600 gallons of milk of 3 per cent of fat during the year:—

SOME OF THE LEAST PROFITABLE COWS IN THE FENWICK SOCIETY.

Farm.	No of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat	Total milk of 3 % of fat in galls.	Value of the produce at 5d per gall. for milk of 3 % of fat. £ s. d.	Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS.
M	31	460	18·2	3·1	481	10 0 5	12	M	Mar. 10, 1906	36	...
O	9	463	20·0	3·1	487	10 2 11	10	S	" 11, 1906	33	Dry, end of Oct.
P	5	517	17·6	2·9	499	10 7 11	4	L	June 10, 1905 May 20, 1906	6 36	...
K	28	460	20·0	3·4	527	10 19 7	4	M	Oct. 8, 1905 Nov. 28, 1906	27 6	...
O	17	518	19·0	3·1	535	11 2 11	5	S	Jan. 15, 1906	39	...
A	14	409	22·9	4·0	555	11 11 3	4	.	Nov. 1, 1905 Oct. 1, 1906	12 15	...
K	30	414	21·9	4·0	555	11 11 3	4	M	April 15, 1906	27	Sold
H	25	498	16·9	3·5	574	11 19 2	7	S	Aug. 9, 1905 " 14, 1906	21 21	... Almost dry
R	31	572	20·9	3·0	580	12 1 8	7	M	Mar. 3, 1906	39	...
P	16	459	14·6	3·9	595	12 7 11	4	M	May 20, 1905 April 28, 1906	6 39	...

The number of really poor cows is, comparatively speaking, small, but no cow should be kept which only gives 600 gallons when other ones are available giving 700 or 800 gallons. The number of the less profitable cows which have been sold during the year is considerable, for each farmer was able to find out unsatisfactory cows by referring to the sheet giving the particulars for each herd. The average yield of the herds seems this year better than last, but there is no time at present to methodically work that out. It is, however, being kept in view, and at some later date it may be possible to give a reliable comparison of one year with another. The elimination of the poorer milkers is undoubtedly raising the general average, and in this the first and main object of the milk records is being accomplished.

The heifers are all through a very good lot, and several among them should turn out valuable animals. Had it been practicable, I would have liked to have followed the heifers of each year through following years, but I have not a full list of the letters applicable to each farm for the year 1905. This should, however, form an interesting study later on. The following is a list of the more profitable heifers tested during the year:—

HEIFERS IN THE FENWICK SOCIETY YIELDING 900 GALLONS OR OVER OF MILK OF 3 PER CENT OF FAT.

Farm.	No. of cow	Total milk in galls	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls	Value of the produce at 5d per gall. for milk of 3 % of fat.			Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS
						£	s.	d.					
C	2	845	28·7	4·0	1132	23	11	8	3	L	Oct. 26, 1905 " 1, 1906	27 15	
D	2	727	21·6	4·6	1112	23	3	4	3	L	Aug. 13, 1905 Sept. , 1906	33 15	
O	12	763	21·4	4·3	1104	23	0	0	3	S	Jan. 25, 1906	51	
G	18	711	26·0	4·2	997	20	15	5	3	M	April 17, 1906	39	
L	5	674	21 4	4·4	978	20	7	6	3	M	Oct. 20, 1905 " 1, 1906	30 15	
P	31	799	27·2	3·6	972	20	5	0	3	M	, 1905 Aug. 14, 1906	18 24	..
H	21	705	20·9	4·1	967	20	2	11	3	M	Nov. 14, 1905 Oct. 20, 1906	36 12	
B	29	770	24·5	3·7	963	20	1	3	3	S	Aug 25, 1905 " 5, 1906	21 24	
K	2	744	23·6	3·9	962	20	0	10	3	M	Sept. , 1905	45	..
D	1	725	20·3	3 9	946	19	14	2	3	L	Oct. 13, 1905	51	
C	19	723	24·6	3·8	930	19	7	6	3	M	Nov. 27, 1905 " 1, 1906	30 12	
H	20	633	20 1	4·3	925	19	5	5	3	S	" 17, 1905 Aug. 16, 1906	24 21	...
K	13	676	23 0	4·0	906	18	17	6	3	M	Sept. 25, 1905 " 25, 1906	27 15	.

With three exceptions, all the heifers in the above list have given 700 gallons of natural milk or more during the past year. Many persons would consider this a good return from an average cow, as in reality it is. But the average cow is not nearly so valuable as she might be, and as it is to be hoped she will become in the not very distant future. The totals are not so high as those of last year, but when the length of the milking period is considered, they are really better. The average period allowed for 18 of the best in 1905 was 49 weeks, while this year the average for 13 is 45 weeks, so that before the two lots are comparable a month's milk has to be added to those of 1906.

HEIFERS IN THE FENWICK SOCIETY YIELDING UNDER 600 GALLONS OF MILK OF 3 PER CENT OF FAT.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat.			Age of cow.	Size of cow.	Dates of calving.	Weeks in milk.	REMARKS.
						£	s.	d.					
O	16	307	16·2	4·0	406	8	9	2	3	S	April 22, 1906	27	Dry, end of Oct.
N	24	379	16·4	3·3	421	8	15	5	3	M	Sept. , 1905 " 27, 1906	18 15	...
P	2	448	16·4	3·3	503	10	9	7	3	L	April 9 "	39	...
Q	23	377	19·9	4·1	519	10	16	3	3	L	" 20 "	27	Sold
P	17	496	18·1	3·3	549	11	8	9	3	L	" 30 "	39	...
P	14	495	19·7	3·4	571	11	17	11	3	S	" 20 "	36	...
O	25	525	25·0	3·2	573	11	18	9	3	S	" 15 "	30	Dry, middle of Nov.
O	8	454	21·6	4·0	594	12	7	6	3	S	" 15 "	30	Dry, middle of Nov.

Among the foregoing heifers there are very few which would generally be classed as unprofitable. In 1905 there were 6 heifers with an annual milk yield of under 500 gallons of milk of 3 per cent of fat, while in 1906 there were only 2. That is a gain, but it is one which cannot be put to the credit of the milk records. The poorest heifers in 1905 had only a lactation period of 31 weeks, while in 1906 the average milking period was 32½ weeks, which in great part accounts for the increased yield.

A good many of the heifers calve in autumn at from 2½ to 2¾ years old. For the time they have been under the test several of these have given very good yields, but the period over which it has extended has been too short to be of any material value in estimating their milking capabilities.

RHINS OF GALLOWAY DAIRY ASSOCIATION.

Under this association twelve herds were tested, all on farms in the Stranraer district. The work here was in charge of James Woodburn, who was the expert in charge of the Cumnock district in 1905. Mr Lamb, Gallowhill, acted as secretary. The most of the herds tested were large; and as arrangements had been made for visiting each herd once every fourteen days, the number of cows tested in each herd was limited to 46. There were tested for this association 537 cows. Testing began on 1st March and continued to the end of August. The time during which the work was carried on was much too short to give very reliable results, particularly as in this district a large proportion of the cows calved in January and February. For the size of the herds the number of animals that are reared is, comparatively speaking, small—the most of the farmers preferring to keep a full herd of cows only, 20 to 25 per cent of which they sell annually, which they replace from the rearing districts of Ayrshire or Argyleshire.

A milk record station was formed in this district in 1903, but the work was only carried on for one year, and only two of the herds tested in that year were embraced in those tested in 1906. The cows in this district are used almost entirely for the production of milk for cheese, or for milk for the supply of one or other of several creameries in the district.

The following is a list of the owners of the herds tested in 1906:—

John M'Caig, Boreland, Stranraer.
W. H. Ralston, Dunragit, Stranraer.
W. H. Ralston, Boreland, Dunragit.
Miss M'Caig, Drumdock, Dunragit.
Mrs M'Caig, Barnultoch, Lochans.
Messrs M'Caig, Barnchalloch, Lochans.
Andrew Murray, Port of Spittal, Lochans.
Miss Wither, Lagganmore, Portpatrick.
Robert Purdie, Craichmore, Stranraer.
Andrew Cochrane, Ardwell, Kirkcolm.
George Cochrane, North Cairn, Kirkcolm.
John Agnew, Balwherrie, Leswalt.

The best cows in this association have not given the same total yield as in any of the others; but this is explained by the short time over which the test extended.

It will be noticed that none of the cows have given 900 gallons of milk of 3 per cent of fat, but several of them have yielded 40 lb. of milk daily during the whole period over which the test lasted. In addition to that, the most of these

2 PER CENT (11) OF THE BEST OF THE COWS IN THE RHINS OF GALLOWAY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 °/o of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 °/o of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
A	29	653	35·8	4·1	895	18 12 11	9	M	Jan. 1	...
A	37	691	38·0	3·8	883	18 7 11	8	L	Feb. 27	...
I	23	727	40·0	3·5	856	17 16 8	5	M	Jan. 28	...
E	30	720	42·8	3·5	839	17 9 7	5	L	March 12	One visit missed
B	14	754	41·4	3·3	825	17 3 9	9	L	Feb. 2	...
K	10	598	32·9	4·0	798	16 12 6	9	L	Feb. 24	..
L	20	631	41·0	3·7	786	16 7 6	6	M	April 3	Two visits missed
B	2	625	34·3	3·7	776	16 3 4	8	M	Feb. 25	...
A	17	619	34·0	3·7	768	16 0 0	9	S	Feb. 20	...
K	10	598	32·9	4·0	765	15 18 9	9	L	Feb. 24	...
I	46	629	34·5	3·6	757	15 15 5	6	M	Feb. 13	...
Average		659	37·0	3·7	813	16 18 9	7·5	...	...	...

were cows which had calved in January or February, so that had their total milk yield been recorded it would have been very good.

2 PER CENT (11) OF THE LEAST PROFITABLE COWS IN THE RHINS OF GALLOWAY ASSOCIATION, WHICH HAVE BEEN IN MILK ALL OR MOST OF THE TIME DURING WHICH THE TESTING LASTED.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 °/o of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 °/o of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
C	44	114	13·7	3·3	123	2 11 3	5	L	Feb. 22	Dry, June 5
F	40	152	13·6	3·9	190	3 19 2	4	L	„	Dry, June 11
C	21	172	15·3	4·0	231	4 16 3	5	M	Jan. 1	Dry, July 3
F	14	221	19·7	3·4	249	5 3 9	5	L	„	Dry, July 1
G	42	272	24·2	3·5	319	6 12 11	8	L	„ 10	...
F	24	315	17·3	3·1	320	6 13 4	8	M	Feb.	..
F	39	348	19·1	2·8	335	6 19 7	10	L	„	...
F	12	265	14·5	4·0	345	7 3 9	7	M	Jan.	...
L	4	345	19·0	3·1	352	7 6 8	11	M	„ 12	...
E	17	330	19·6	3·3	364	7 11 8	8	M	March 12	...
H	26	302	17·9	3·8	367	7 12 11	6	M	„ 10	...
Average		258	16·7	3·35	290	6 0 10	7	...	...	...

Several of the above animals have been very unprofitable, but little can be said about them except to point out that some of them went dry before the end of the period of testing.

Where cows are purchased in the open market, no person is able to steer clear of unprofitable cows. I have thought for many years that this district might profitably do more breeding for their own supply than they have hitherto done.

AVERAGE YIELD OF 4 OF THE HEAVIEST MILKING COWS IN EACH HERD IN RHINS OF GALLOWAY ASSOCIATION, COMPARED WITH AN EQUAL NUMBER OF THE LIGHTEST MILKING ONES, HEIFERS AND ALL NOT TESTED FOR THE FULL PERIOD BEING EXCLUDED.

		No. of cows in the herd.	Total milk in galls. Heaviest	Total milk in galls. Lightest	Average per cent of fat in the milk.	Total milk of 3 % of fat in galls.	Total milk of 3 °/o of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 °/o of fat. Heaviest milkers.			Lightest milkers		
								£	s.	d.	£	s.	d.
Heaviest milkers	A	41	643		3·8	822		17	2	6			
Lightest "	"			408	3·7		512				10	13	4
Heaviest "	I	45	651		3·6	776		16	3	4			
Lightest "	"			385	3·6		467				9	14	7
Heaviest "	L	46	576		3·8	769		16	0	5			
Lightest "	"			380	3·7		472				9	16	8
Heaviest "	B	46	657		3·5	763		15	17	11			
Lightest "	"			358	3 5		417				8	13	9
Heaviest "	K	46	589			760		15	16	8			
Lightest "	"			440	3·4		507				10	11	3
Heaviest "	E	45	609		3·6	737		15	7	1			
Lightest "	"			414	3·1		432				9	0	0
Heaviest "	M	46	567		3·5	671		13	19	7			
Lightest "	"			479	3·3		431				8	19	7
Heaviest "	G	44	566		3·5	669		13	18	9			
Lightest "	"			383	3·6		461				9	12	1
Heaviest "	D	46	512		3·9	663		13	16	3			
Lightest "	"			424	3·3		465				9	13	9
Heaviest "	H	45	516		3·7	641		13	7	1			
Lightest "	"			376	3·2		409				8	10	5
Heaviest "	C	44	516		3·5	607		12	12	11			
Lightest "	"			253	3·3		281				5	17	1
Heaviest "	F	43	513		3·7	629		13	2	1			
Lightest "	"			259	3·1		274				5	14	2
Total . . .		537	...	...	...	..							
Average of the heaviest milkers		48	576		3·7	709		14	15	5			
Average of the lightest milkers		48		380	3·4		427				8	17	11

STEWARTRY DAIRY FARMERS' ASSOCIATION.

This association was represented by twelve herds, principally round Castle-Douglas, and between that town and Dumfries. The Secretary of the Association is Mr P. Gifford, 70 King Street, Castle-Douglas, and the expert in charge was W. D. Vallance. In this district the herds are generally large, the smallest one consisting of 32 cows, and the largest 69, the total number of cows being 601.

The milk is principally made into cheese or sent to the local creamery. This district is well organised in dairy matters, and considerable progress is expected to be made in it with this work.

The intention here, as in the other districts, was to test a herd each day, but as half of the herds had 50 cows or over, it was found that the expert could not comfortably overtake the larger herds in a single day. Instead of the expert visiting each farm every 14 days, it was decided to do so every 21 days, and to take two days at six of the larger farms.

After work began it was found desirable to make alterations in the order in which the farms were visited. These alterations made a difference in the interval elapsing between the visits, the periods ranging from 22 days to 26 days. In order to get a close estimate of the total produce of each cow, the yield must be multiplied by the number of days between the visits. This irregularity in visiting the herds caused a great amount of extra work in making up and in checking the books. In future, therefore, irregular intervals should be avoided. The rotation in which the herds should be visited should be maturely considered before the work begins, and when once entered on should be continued to the end. The following is a list of the owners of the herds tested:—

David M'Gill, Hillowton, Castle-Douglas.
H. W. B. Crawford, Chapmanton, Castle-Douglas.
John Hastings, Wheatcroft, Castle-Douglas.
H. Parker, Boreland, Balmaghie, Castle-Douglas.
Edward Gordon, Dunjop, Castle-Douglas.
Thomas Douglas, Lochdougan, Castle-Douglas.
James M'Adam, Craigley, Castle-Douglas.
W. P. Gilmour, Balmangan, Borgue.
Sir Mark Stewart, Bart., Southwick Home Farm, Dumfries.
Captain Cochrane, Torrorie, Kirkbean, Dumfries.
Thomas Sloan, Newmains, Kirkbean, Dumfries.
Weir Bros., Brickhouse, New Abbey Road, Dumfries.

Work began on 26th March, and continued till the end of October. It extended over a period of 34 weeks, but in that interval each farm was visited only nine times. The actual period on which each herd is calculated is 214 days, where a cow was in milk all the time, and it is very gratifying to find, as shown by the following table, that almost a dozen of cows yielded milk equal to 1000 gallons or over of milk of 3 per cent of fat in that time.

2 per cent (12) of the Best of the Cows in the Stewartry Association

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3 % of fat in galls	Value of the produce at 5d per gall for milk of 3 % of fat			Age of cow	Size of cow	Date of calving	Remarks
						£	s	d				
C	26	762	39 9	4 6	1152	24	0	0	7		April 22	
G	33	732	35 4	4 6	1145	23	17	1	11		March 15	
C	61	755	35 3	4 3	1079	22	9	7	8		Feb 3	
H	38	820	38 3	4 3	1073	22	7	1	7	M	March 20	
H	10	730	34 1	4 4	1071	22	6	3	8	M	Feb 12	
M	51	809	37 8	3 8	1017	21	3	9	8		March 20	
D	4	634	33 0	4 8	1011	21	1	3	7		April 14	
I	6	837	39 1	3 9	1011	21	1	3	7		March 15	
C	24	845	39 5	3 6	1000	20	16	8	8		Feb 25	
M	2	710	33 2	4 2	999	20	16	3	5		" 26	
A	50	674	31 5	4 3	983	20	9	7	10		10	
C	31	717	33 5	4 0	978	20	7	6	7		March 23	
Average		752	35 9	4 16	1043	21	14	7	7 7			

The above figures show the capabilities of the breed. Owing to the better knowledge of the milking capabilities of each cow in the herd, the small farmer generally has the means of making a better selection of his calves, for milking purposes, than the owner of a large herd, who in many cases is not so conversant with the qualities of each animal It is worthy of notice that the twelve most profitable animals, out of 601, are spread over eight farms out of a total of twelve One herd has, however, four of these animals, and other two herds two each, the remainder having one each Most of these herds would be classed as large.

Comparatively speaking, the number of really poor cows is small, as will be seen by the following table —

2 per cent (12) of the Least Profitable of the Cows in the Stewartry Association

Farm	No of cow	Total milk in galls	Average milk per day in lb	Average per cent of fat	Total milk of 3 % of fat in galls	Value of the produce at 5d per gall for milk of 3 % of fat			Age of cow	Size of cow	Date of calving	Remarks
						£	s	d				
D	34	176	15 3	4 2	246	5	2	6	4		Feb 18	Dry, Aug 1
B	36	257	15 4	4 0	338	7	0	10	4		March 26	Dry, Sep 15
E	59	339	20 2	3 3	363	7	11	3	7		Feb 10	
D	8	310	14 5	4 0	394	8	4	2	4		Jan 5	
E	7	321	19 2	3 9	396	8	5	0	5		April 14	Dry, Oc 1
F	12	360	18 9	3 5	408	8	10	0	4		March 18	Dry, Oc 15
A	16	387	18 1	3 3	423	8	16	3	6		Jan 13	
D	17	344	18 2	4 0	436	9	1	8	6		Feb 14	
E	53	392	27 2	3 3	437	9	2	1	5		June 3	
D	50	310	14 5	4 0	439	9	2	11	4		Jan 14	
D	2	378	17 6	4 0	445	9	5	5	7		" 20	
G	48	430	20 1	3 1	446	9	5	10	4		Feb 13	
Average		334	18 3	3 57	397	8	5	5	5			

Cows which have calved in January and February, and from April to October yield milk, valued at from £8 to £9, can scarcely be called unprofitable. Two-thirds of those in the above list belong to this class, so that the remainder may alone be considered the poor ones of this association.

In this district the heifers compare very favourably with the cows, as is shown by the following table:—

6 OF THE BEST HEIFERS IN THE STEWARTRY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 °/o of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
C	48	565	26·4	4·9	914	24 5 0	3	...	Jan. 17	..
H	36	680	36·0	3·8	866	18 0 10	3	M	April 15	...
C	4	586	27·4	4·2	812	16 18 4	3	...	Jan. 14	...
E	21	563	26·3	4·3	811	16 17 11	3	...	March 19	..
A	52	608	28·4	4·0	804	16 15 0	3	..	" 18	.
K	30	614	28·7	4·0	797	16 12 1	3	...	" 17	..
Average		603	28·9	4·15	834	17 7 6	...	...	..	...

The number of heifers in any of the herds is not very large, yet out of the lot there are six which gave an average of say 603 gallons during the testing period of 30½ weeks. That is as good as can be expected, more especially as two of these animals had calved two and a half months before testing began. If a full record had been kept of these animals they would have given a very good account of themselves. These two heifers are in herd C, which had the largest number among the best twelve.

Little criticism need be passed on the least profitable heifers; none of them require any special mention.

6 OF THE LEAST PROFITABLE HEIFERS IN THE STEWARTRY ASSOCIATION.

Farm.	No. of cow.	Total milk in galls.	Average milk per day in lb.	Average per cent of fat.	Total milk of 3 % of fat in galls.	Value of the produce at 5d. per gall. for milk of 3 % of fat.	Age of cow.	Size of cow.	Date of calving.	REMARKS.
						£ s. d.				
D	25	257	13·6	4·1	332	6 18 4	3	...	Feb. 22	Dry, Oc. 1
B	58	265	12·4	4·0	345	7 3 9	3	...	March 5	...
L	42	281	24·0	4·0	381	7 18 9	3	...	" 20	Unwell from Aug. 1
L	18	296	15·6	3·6	348	7 5 0	3	...	April 15	Approximate date
B	1	291	13·6	4·3	402	8 7 6	3	...	" 1	Approximate date
D	38	347	16·2	3·7	407	8 9 7	3	...	March 1	...
Average		289	15·9	3·8	369	7 13 9	...	...	...	...

About the most that can be said regarding the above table is that, if a heifer is to grow into a useful and profitable cow, she should milk longer than has been done by No. 25 D, unless there is some special reason for the period being so short. Those who have paid closest attention to the lactation period of cows are strongly of opinion that the more a heifer yields during her first period of lactation, the better she is likely to milk during her second period. This opinion is very strongly held in Canada and the States, but less weight is attached to it here.

AVERAGE YIELD OF 10 PER CENT OF THE HEAVIEST MILKING COWS IN EACH HERD IN THE STEWARTRY ASSOCIATION, COMPARED WITH AN EQUAL NUMBER OF THE POOREST ONES, HEIFERS AND ALL NOT TESTED FOR THE FULL PERIOD, OR THOSE WHICH HAD CALVED BEFORE THE 1ST JANUARY, BEING EXCLUDED.

	Farm.	No. of cows in the herd.	No. reported on.	Total milk in galls.	Total milk in galls.	Average per cent of fat in the milk.	Total milk of 3 % of fat in galls.	Total milk of 3 % of fat in galls.	Value of the produce for milk of 3 % of fat at 5d. per gallon.	
				Heaviest	Lightest				Heaviest.	Lightest.
									£ s. d.	£ s. d.
Heaviest milkers	A	59	6	709		3·86	914		19 0 10	
Lightest "	"				398	3·67		487		10 2 11
Heaviest "	B	60	6	624		3·80	790		16 9 2	
Lightest "	"				353	3·58		421		8 15 5
Heaviest "	C	69	7	748		4·05	1011		21 1 3	
Lightest "	"				465	3·63		563		11 14 7
Heaviest "	D	59	6	649		4·09	885		18 8 9	
Lightest "	"				308	3·94		405		8 8 9
Heaviest "	E	52	5	650		3·94	855		17 16 3	
Lightest "	"				354	3·77		442		9 4 2
Heaviest "	F	32	3	675		3·96	891		18 11 3	
Lightest "	"				461	3·48		536		11 3 4
Heaviest "	G	51	5	698		3·96	922		19 4 2	
Lightest "	"				451	3·38		508		10 11 8
Heaviest "	H	34	3	748		4·10	1021		21 5 5	
Lightest "	"				549	3·61		661		13 15 5
Heaviest "	I	49	5	685		3·80	869		18 2 1	
Lightest "	"				472	3·40		536		11 3 4
Heaviest "	K	38	4	664		3·85	857		17 17 1	
Lightest "	"				427	3·63		517		10 15 5
Heaviest "	L	49	5	639		4·00	850		17 14 2	
Lightest "	"				397	4·00		530		11 0 10
Heaviest "	M	49	5	730		3·97	966		20 2 6	
Lightest "	"				446	3·71		553		11 10 5
Total . .		601	60	.	..	...	...	...	...	...
Average heaviest . .				685		3·95	902		18 15 10	
" lightest . .					423	3·63		513		10 13 9
" difference . .					262	·32		389		8 2 1

CLYDESDALE MEMORIES.

THE OLDER SCHOOL OF CLYDESDALE HORSE BREEDERS: THEIR HORSES, IDEAS, AND METHODS.

By THOMAS DYKES, Edinburgh.

IN these days of modern scientific development, when the horse with its attendant cart and load has to halve the highway to every form of mechanical locomotion, it seems fit to notice the operations of the men who did work in the past, so far as ordinary agricultural haulage and city traction or general commercial conveyance were concerned. Ashore we have within the past few years broke to harness various forms of explosives, like petrol and other hitherto untractable substances; afloat the turbine is doing away with the old-fashioned marine engine and its cranks, cylinders, and piston-rods. We may have further changes, but it seems certain that we shall always have, altered in type gradually to meet each new state of things, the Clydesdale horse. It has had a long and instructive history, which is not likely to be discontinued, for though the motor may remove it from certain fields of equine labour, just as the steam locomotive did at one time, it will develop new work for it in other directions.

Had those who during the period of development of the railway system entertained pessimistic views, we would not have such grand lorry horses on our streets at the present day. What the steam horse brought in bulk, being confined to its track, it could not deliver, and so the work of minor distribution, as did previously the collection, fell to the stout, able work-horse. The contractors for the railways brought a large amount of money into our fairs, bargains were quickly made, and good prices were readily given. There is no better incentive to agriculture than steady and remunerative markets: these were forthcoming from the goods managers of the leading railway companies, and eventually from the large town owners, brewers, and millers, as well.

At the outset farmers did not, as a rule, aim at producing anything better than what suited their own requirements. Gradually, however, they found that the "big good uns sold better than the big little uns," and they tried to increase height, weight, and strength of bone,—this, however, without running the risk of impairing such marked qualities of the Clydesdale as flat bones, well-sloped pasterns, and sound durable hoofs. Good pulling action had also to be preserved, and certain characteristic features—such as the broad forehead, the full vigorous eye, and the large ear. These features quickly marked them out as Scottish horses at the leading English fairs, where owing to their hardiness of constitution they were, outside of any other excellences, held largely in favour amongst the leading dealers.

So much historical matter about the early evolution of the Clydesdale has been presented in recent years, that in the present article, which deals almost entirely with the men of the century which has passed away, it may conveniently be left out. The horses of the Upper Clyde valley seem for a long time to have engaged the attention of Scottish courts and Scottish governments—cavalry being as essential for defence against invasion as the British fleet is to the British Isles at the present day. There is small reason to doubt, indeed, that the ancient Clydesdale had all the characteristic features and meritorious points alluded to developed in the tribal system, as was the case with the so-called ponies or small horses of the forests north and south of Tweed under various Acts of Parliament. Under-sized, unsound, and weedy-looking young colts were castrated, and the biggest and best-looking allowed to roam and serve at will. The Upper Ward of Lanarkshire, and indeed a large part of that country which has the ancient royal burgh of Lanark as a centre, was, so far as horse-breeding is concerned, no doubt managed by the Lanark burgesses (who were bound to keep horses under certain penalties) very much after the way the New Forest, Hampshire, is as a pony-breeding reserve conducted at the present day.

Black Horse Blood.

About the middle of the eighteenth century stallion-keeping became somewhat of a business, this largely through the introduction of Black Horses and the craze after size. The spirit of the new movement seems to have come largely out of the east country,—the rich Lothian farmers, who had been extensive purchasers of Clydesdales in Ayrshire and Renfrewshire after the latter had got through their oat and barley sowing, being anxious to get more power in the yoke. Besides a large area of cultivation of a heavy character which had to be got through, there was a considerable extent of cartage to be done over tracks which could scarcely be dignified by the name of roads. Though, of course, Black Horse blood had been introduced into Lanarkshire about the year 1733, as the Introduction to the Retrospective volume of the Clydesdale Stud Book explains, this was largely through the private enterprise of breeders themselves, like the Patersons of Lochlyoch. Whether or not a Duke of Hamilton imported twelve Black stallions from

Flanders and stationed them at Strathaven Castle during the sixteenth century matters little,—we had a more than plentiful supply of it from other sources, as the following advertisement in 'The Caledonian Mercury' of October 16, 1721, well proves:—

FOR SALE.

> THERE are to be exposed for Sale by Public Roup upon Wednesday, 1st of November, at the Miln of Alva, in Stirlingshire,—four miles east from Stirling, three miles from Clackmannan, and two miles from Alva,—in the house of Robert Murray, innkeeper, five fine bay-coloured stone Horses, young and well-marked, proper for coach or saddle; one fine large black Stallion, four well-sized black English Mares, all of them with Foals at their foot, with several other Colts and Fillies two and three years old, all of good kinds. As also several fine Saddle Horses—being the displenishing of a gentleman who was very curious in breeding. The Roup is to begin at ten o'clock and to continue till all is sold.

We have no mention of the gentleman who was very *curious* in horse-breeding, but the Johnstones, lairds of Alva, were exceedingly enterprising.

The Duke of Buccleuch seems to have been very anxious to encourage the free use of Black Horse blood. Hence the following in 'The Edinburgh Courant' of May 4, 1774:—

> To cover at Dalkeith, at One Guinea
> a mare and a shilling to the groom,
>
> A REMARKABLE STRONG BLACK HORSE,
>
> proper for getting either draught or carriage horses. His sire covered three years in Leicestershire at Five Guineas. This horse was bred by Mr Bakewell, at Dishley, in Leicestershire, and is thought to be the best of his sort that ever was in this country.
>
> *N.B.*—Mr JOHN DICKSON, Dalkeith House, will show the horse.
>
> *Good grass for mares.*

Linlithgowshire with Stirlingshire took the lead in the building up of the Clydesdale into a bigger type of farm horse, and it was from the latter that the "Black wave" passed over into Lanarkshire. Bakewell, not content with selling stallions into Scotland to the Duke of Buccleuch and others, sent north two Black Horses of his own breeding which were stationed alternately, three days a week, at the Crown Hotel, Linlithgow, and at quarters in the Edinburgh Grassmarket. These horses were made much use of, and Black Horse blood, as distinct from old type Clydesdale, came into general demand. We give the card as advertised in 'The Edinburgh Advertiser' of May 1774:—

> To Cover this Season at 15s. a mare.
>
> A BEAUTIFUL BLACK HORSE, known by the name of YOUNG SAMPSON. He is a 4-year-old, 16·1 inch high, the property of Mr ROBERT BAKEWELL, in Leicestershire, and is allowed to be the best black horse ever shown in Scotland. Also with him is the much noted Bay horse called SAMPSON, from Westmoreland, 15 hands and a-half high. They are both remarkably strong and handsome to their size, free of all blemishes, and move as well as any horses in the Kingdom. They will be duly met with at Mr BAILLIE's in the Grassmarket on Mondays, Tuesdays, and Wednesdays; at Linlithgow at THE CROWN on Thursdays, Fridays, and Saturdays.

The pure Clydesdale and the Clydesdale and Black Horse combination were recognised as separate divisions, much in the same way as in more recent times the Merryton half-Shire half-Clydesdale was recognised as different from the *improved*, or rather one might say enlarged, old Clydesdale breed. "Thompson's Black Horse"—the small handbill of which the writer had from a nephew of the owner, and which is reproduced in his introductory chapter to the second volume of the Clydesdale Stud Book—was only one of a very numerous family bred of Bakewell's Leicestershire combinations on other horses imported direct from Flanders. In many parts of the country, notably in the south-west of Scotland, these Black stallions were avoided. They were soft, and in the words of an old breeder who had discussed their merits and demerits on afternights at Lanark Fair, "their work wasna equal to their keep." They were very sluggish, no doubt, like all horses bred on the Flamand sea-coast, and needed more oats than could be well spared when the latter formed the staple food of the peasantry.

That the Black Horse gave a certain thickness and strength of bone to the existing Clydesdale was very generally admitted by breeders up till entering upon the last quarter of the eighteenth century, when a hark-back movement was made to the old Scottish type. Various influences were working away, *gradually* but *unseen*. Ploughs and all forms of agricultural implements were steadily being improved, the Turnpike Act had been passed, and Macadam had given us roadways which were impervious to rutting.

Whilst Ayrshire, the Galloways, and Dumfriesshire would not take the Black sorts, Aberdeenshire drew very heavily on the modern combination. Hence we have the following advertisement in 'The Edinburgh Courant' of 1804:—

ROUP OF MR JAMES INNES, DURRIS.

To be Sold on August 22, 1804, Twelve Work-Horses and Mares, all of them good sizes, peaceable, and in great order. They are chiefly bred from a valuable Lanarkshire Black Horse.

Early Shows.

As we have said, Bakewell had two Black Horses which stood at Linlithgow on easy terms, and which no doubt were well patronised. Hence we find in 'The Edinburgh Courant' of February 15, 1808, the following announcement:—

"The West Lothian Agricultural Society, at their last meeting, held at Linlithgow on the 5th inst., resolved that, in order to improve the Draught horses and the cattle of the county of West Lothian, Premiums amounting to the following sums shall be given: Fifteen Guineas to the person who shall produce the best cart stallion, and seven guineas for the next best" (here follows premiums for cows).

The Campsie (Stirlingshire) Improvers' Society held a very excellent show of horses about this time and for some years afterwards. Modern Clydesdale horse history, however, may be largely held to date from the Highland and Agricultural Society's first meeting in Glasgow in 1826. Glasgow being the centre of the Clydesdale horse breeding district, a very early spirit of improvement was manifested by the farmers of the adjacent counties, and the organisation of the Glasgow Annual Stallion Show in the 'Seventies had a great deal to do with the development of draught horse breeding, not only in Scotland but also in the north of England. It was not possible for many of the owners to send, unless at a cost which the income from service-fees did not warrant, to the various little exhibitions which were held throughout the country, at Gatehouse-on-Fleet in Wigtownshire, and other places. The hiring societies felt also that they were not getting much range of choice. Gradually the latter resolved to meet at Glasgow and select horses after the Glasgow Agricultural Society had claimed, according to conditions, what its judges considered the most superior stallion for the district. Somehow Renfrewshire held out against Glasgow's attempt to establish a monopoly, and regularly, after the date of the Glasgow exhibition had been announced, fixed its show to be held at Paisley for the day previous.

With their show gradually extending into national importance, and finding that they had to make special application for space in the Cattle Market, also to expend money in stall fittings and barricades, the Glasgow directors insisted upon an earlier period of entry, horses having been for a long time simply brought forward without entry at all and inspected. In 1871 it was determined to have something in the form of a card of exhibits, no horses to be allowed into the enclosure unless names and names of owners were printed thereon. Small heed was given to this, though the entries did not close till ten o'clock on the night previous to the show—the writer, however, attending at Paisley and receiving a few. The cards having been got out overnight, the next day a large number of good horses, belonging many of them to leading owners, were refused entrance at the gate. The following year there was no difficulty over the matter, and Renfrewshire in the end giving way, the Stallion Show was fully consolidated, the full Cattle Market in the end being found too small for all the exhibits. Premiums and service-fees were alike raised, a foreign market was set up, and the exhibition came to be regarded as a great annual Fair or Exchange.

Clydesdale Horse Society.

The most important chapter in modern Clydesdale horse breeding history, however, is that which relates to the formation of the Clydesdale Horse Society and the completion of the pioneer volumes of the Clydesdale Stud Book. The first possibly to advocate pedigree registration in this direction was the late Mr Thomas D. Findlay of Easterhill, who was very fond of the old Scottish type of agricultural horse, as represented by Mr Peter Crawford's prize-winning Glasgow stallion Ivanhoe, and in later days Mr William Caldwell's (Boydston, Ardrossan, Ayrshire) Boydston Boy. When we consulted him about the matter in 1874, he said that the Scottish breed of draught horses, as represented by the Clydesdale, was losing many of its ancient characteristics, the dealer element in the north being anxious to supply the demand from the midland towns of England for dray horses, and not very particular as to the future, so long as they could furnish rough, heavy geldings. Except to say that such a register would be a great advantage to home breeders themselves, as well as to those abroad, he could give little encouragement save recommending us to keep the idea in mind, and to call on Mr Cockburn, the well-known Glasgow veterinary surgeon, with whom he had several times talked the matter over.

Mr Cockburn, who had executed some Clydesdale commissions for foreigners, thought a stud book was absolutely essential from the point of view of doing business,—pedigrees, most of them of a hearsay character, having to be hunted out and mailed after shipment. So far as we can recollect, the English buyers of Clydesdale stallions were not much more satisfied, arriving home with a young horse or colt by Prince of Wales, to find out at the Royal Agricultural Show that the sire (or it might be the grandsire) was not by the Merryton famous sire, but by some other of the same dynasty. Prize-winning names were quickly, and we might say most unscrupulously, seized upon, and that of Sir Walter Scott, the grandsire of the Merryton horse, was commonly made use of. The merits of the fathers, we are afraid, descended unto the children, and other equine children as well. So when making our interrogatories about a colt subsequently castrated, which was called young Sir Walter Scott, the following was in colloquial style the phraseology: "He is a son, is he not, of young Sir Walter Scott by old Sir Walter?" "*Na, na,* he is naething of the kind." "Then he was by the old horse himself?" "You're a' wrang again; in fact, he's nae relation to the auld Sir Wattie at a'; but, ye see, ye maun have a guid name if ye want to book mares nooadays."

Numerous cases of this kind came before the Editing Committee, together with others of a kindred character. A poacher has many *aliases*, but in no case more than had then the so-called poaching stallion, which, failing to get an engagement at the Glasgow Stallion Show, was, with some groom who knew the country, despatched into certain preserves, there to gather up as much as possible in nominal service-fees, and this without regard to foal-money contingencies.

Keeping this in view, it became evident to many of the most intelligent of our draught horse breeders, and more particularly those who studied Coates's Shorthorn Herd Book and the General Stud Book of Messrs Weatherby, that things could get no "forrarder" in the matter of improvement unless we had *system*, and with system *record*, so that false statements as to lineage might be challenged at the Council meetings of Agricultural Societies, in the case of prize-winning stock, or, if necessary, in the law courts. Of course horse-dealers did not care to be troubled with the responsibility of giving pedigrees, any more than they did warranties as to soundness; and any attempts at the establishment of registration were met by them with little sympathy. "A good mare, and the best the body ever had about his place either for showing or breeding, and what more does he want," was the remark of the late Hugh Crawford, the eminent West-country horse-dealer, to the writer, who had promised to find the pedigree for an old breeder who was not so fit to get about. All the information I had to work upon was that she was bought from Hugh Crawford at either Rutherglen or Glasgow Fair on or about a certain date. Hugh, broad, burly, and powerful in mind as in body, was busy at the time drawing out a likely lot for Mr M'Culloch, buyer and stud manager for Pickfords and the London and North-Western Railway, and naturally enough did not care to be disturbed. Later on, with a little leisure, he gave us the clue we wanted.

The writer merely mentions the incident to show that the dealers did not recognise anything in the line of family foundation. Modern breeders will readily discover the reason why we wanted the particulars of the antecedents of "a good mare, and the best the body ever had about his place either for breeding or winning prizes." Everybody, and more particularly strangers from abroad, wanted, as they do at present, to buy from her owner at weaning-time or a little later off a mare not only possessing merit in herself, but able to contribute her excellences to her stock. Such a good mare, they reasoned, must have been sired by a good horse, and had many relatives possibly of equal merit to herself if their whereabouts could have been indicated. Of course many would say, "The mare carries her pedigree in her looks"; but it is needless to add that all such arguments are fallacious, for there have been exceedingly good-looking mares at times got by indifferent sires, which, no matter how carefully mated, have turned out disappointing at stud, there never being any real certainty as to how one would breed either as regards form or colour.

It is but fair to the dealers to say that they could not, from the style in which their business was then, as now, carried on, give much assistance in hunting out pedigree history. If they condescended (we are writing from experience) to turn up an old sale pass-book and say, "I bought her, to the best of my recollection, from so-and-so, who bred her himself or bought her from her breeder," you had all the clue you might get. You then had to do your best, much after the manner of the professional hunters of next-to-kin holders of legacies who search amongst gravestone epitaphs and parish registers. The habit of changing a horse's name with the changing of ownership was a frequent cause of confusion, and altogether one had no reliance upon pedigrees as they were then supplied. In many cases they were, mayhap, right enough; but there was always some one—a defeated exhibitor in the majority of cases, if not a disappointed customer—ready to declare otherwise.

"Pedigree Unknown."

The Highland and Agricultural Society having insisted upon all young Clydesdale exhibits having their pedigrees stated in the entry-form where such pedigrees were known, a goodly number were sent in marked "Pedigree unknown." To honest breeders who complied with the conditions this was, on the face of it, manifestly unfair. Between the closing of the entries a promising yearling, fully entered with names of sire or dam, might go all wrong, and though you had another quite as good, you dare not honestly take it forward. The owner of the colt entered "Dark brown, pedigree unknown," could pick his best at the last moment, and in this way not only make success more certain, but save a good deal in entry money and railway carriage. A newspaper controversy having taken place over a pedigree-unknown two-year-old colt which was first in his class at Aberdeen, and an absolutely impossible pedigree having been supplied for this colt when later on he was engaged for service, a meeting, convened by Mr J. M. Martin, was held at Glasgow on the night before the Glasgow Stallion Show to consider the question of establishing a stud book. Lord Dunmore presided over a large and enthusiastic attendance of breeders, and, as everyone knows, the Clydesdale Horse Society was formed,—the first volume, which was retrospective, being issued in the latter end of 1878.

The Clydesdale Horse Society, which has been in every way most successful, has issued no fewer than twenty-seven volumes, the information contained in which is well authenticated, and has also granted official certificates of pedigrees for many hundreds of horses shipped to all parts of the world. Kindred societies, with stud books based on the home lines, have also been established in the United States and the Colonies.

The writer having, as Secretary, been much in touch with all the older breeders and owners, and heard them converse about horses with those who went before them, has in the following notes attempted as well as he could to produce some information of an anecdotal character gathered therefrom. In doing so he makes no attempt to range the matter in the order of importance in which it ought to occur, giving, one might think, Lanarkshire the preference. There is scarcely a county in the Lowlands that has not bred at one time or other a champion colt. The writer's first experiences of Clydesdale horses were gained in Ayrshire, his native county, and which shall always claim note as holding the birthplaces of the celebrated Merryton Prince of Wales and the two scarcely less noted horses, Macgregor and Flashwood.

Ayrshire Clydesdale Breeders.

The early Ayrshire Clydesdale breeders were represented in the Kyle district by a few stallion hirers and buyers of colts and fillies at Lanark Fair. Amongst the former were the Hutchisons of Craiksland in Dundonald parish. Previous to the year 1805, when Craiksland, with all the other properties on the Fullarton estate, was parted with to the fourth Duke of Portland, the family, according to tradition, had acquired some note in this branch of agricultural enterprise; and there is reason to believe that the Flanders stallion imported by Colonel Fullarton in 1793 occasionally stood at Craiksland farm, which is about a mile and a half distant from Fullarton House. This Colonel Fullarton, the last of the name associated with the lands, was the Brydon's brave ward of Burns's poem of "The Vision." He was twice member of Parliament for the county of Ayr, and supplied the Statistical Report of the county of Ayr in 1793. Succeeding to the estates when five years old, after being educated at Edinburgh he was sent under Patrick Brydon, an eminent Edinburgh scholar and gentleman, to travel on the Continent, visiting and being received at every European Court. He was an enthusiast in everything pertaining to the equine race, a careful observer, and an excellent judge, as is revealed by his remarks on the different bodies of Continental cavalry which came under his notice. In 1793, on the outbreak of the French War, he raised in the West country, with headquarters at Troon and latterly at Jock's Lodge, Edinburgh, the 25th Light Dragoons, or Fullarton's Light Horse. All the mounts were greys, and to distinguish them from Cathcart's Greys or Scots Greys, they were generally alluded to in the service as the Glasgow Greys, probably from the fact that they disembarked at Glasgow for duty on the south-west of Ireland, which it was expected would be invaded. Many of these mounts were mares, and their withdrawal greatly depleted the old stock of Ayrshire greys alluded to by Burns in all his poems, and which, according to the report of the Colonel himself, had been getting very thin.

In the year 1792 the Colonel married the Hon. Marianne Mackay, eldest daughter of the fifth Lord Reay, the head of the Clan Mackay, whose family, after parting with their extensive patrimonial acres to the Duke of Sutherland, had taken root on the Dutch coast, the present head of the family bearing the title of Baron von Oppenheim. It seems more than evident that the Colonel, through this early attachment, was well up in everything pertaining to the breeding of Flemish horses; for he, in a footnote to his report, says that he had tried, but in vain, to bring two Flanders mares to Fullarton, but that the

Dutch Government would not allow mares under any consideration to be exported. This was following on the Bakewell run and the somewhat sweeping advance of the Black Wave.

The Colonel, for the sake of improving the half-bred stock for remounts, brought to Fullarton a very famous thoroughbred horse, which served thoroughbred mares at five guineas, other mares two guineas. He was a bay, 15·2, a son of Eclipse, and declared to be the best bred, most powerful, and best shaped thoroughbred horse in Great Britain. He stood alternately at Restalrig, Edinburgh, and Fullarton; at the foot of his card there is the following:—

> "Also to cover
> At Fullarton, near Ayr, during the season, at One Guinea and half-a-crown for each mare, the powerful Flanders Stallion
>
> VANDERNOOT,
>
> A chestnut horse, six years old, 15·3 hands high, the best formed and strongest draught horse in this Kingdom, goes well upon his legs, and a good step, and can trot 13 miles an hour."

This horse, the Colonel states, was 1200 lb. in weight, and could move two tons at a walk.

The character of the Ayrshire agricultural horses was no doubt considerably influenced for good by this red bay stallion, and a good many of the older Renfrewshire dealers used regularly to come down and have a look around, one of the last being Samuel Clark of Manswraes, elsewhere alluded to as one of the pioneers of modern stallioneering enterprise.

Mr Robert Hutchison.

Mr Robert Hutchison, grandson of Mr Andrew Hutchison, who was tenant of Craiksland in 1793, was well known in West of Scotland Clydesdale-breeding circles as an enthusiastic stallioneer, exhibiting at Gatehead, Wigtownshire, and other shows which used to be held before the Stallion Show was fully consolidated in the early 'Seventies. He bought colts timeously before the castration period at small prices, the service fees at that time not allowing of one's venturing too much capital at the initial stage. In the off season his horses had to do a little bit of farm work—if not in front of the plough, in turning the mill on threshing days. "They are all the better of it," he used to say, "if you are good to them on the road afterwards." Certainly, though his horses may not have been up to the highest prize-winning standard, they were wonderfully successful in producing foals. Besides holding stallions of his own, he occasionally indulged in several little poaching partnerships. One of these with which he was most successful was that with Daniel Crawford of Barnbeth, Kilbarchan, and Loudon Tam.

The old Ayrshire and West-country pronunciation of the Lothians was the Lowdens, and this, coupled with the fact that Loudon Hill, in the centre of Loudon parish in Ayrshire, is a prominent landmark, caused considerable confusion in arranging pedigrees for the stud-book, it having been thought by some that Lothian Tam, the noted Highland prize horse belonging to Mr Arkley of Philipstoun, Linlithgow, was the same horse as Loudon Tam (509). The writer was largely indebted to Mr Hutchison and Mr Robert Guthrie of Crossburn for the clearing up of the difficulty. This particular Loudon Tam (509) was by Loudon Tam (508) by a "grass colt" selected from the drove at Lanark Fair by Matthew Young of Knockendale, who bought for such farmers in the Kyle district as wanted horses for lea ploughing. It seems more than likely that the latter was bred on the Loudon (Ayrshire) and Lanarkshire border. With Tom Carstairs (879) he (Mr Hutchison) did very well in the Ayrshire and Galloway country, and if descent were possible of full detail on the dam's side, a great many useful mares in the Kyle district of Ayrshire could be traced to this horse.

Poor Bob Hutchison met with a terrible calamity when in middle life during the early 'Sixties. He was feeding a chaff-cutter when his left hand got caught between the rollers. He stretched forth his right hand against the merciless blade (the wheels were open in those days), but in vain, and almost within the space of a moment those hands which had many a time and oft searched out side-bones were clean separated from the wrists. Yet his heart clung to the old business, and attended by a devoted old friend, the late Mr Briggs, overseer to the Duke of Portland at Craigend, Troon, he visited regularly the Glasgow Agricultural Clydesdale Stallion Show as well as the Highland and Agricultural Society's meetings. He was dead against side-bones and the like, and we on more than one occasion at Glasgow went over the hoofs of horses he intended to offer for if all correct. On one occasion when we found everything quite to our liking and reported a sound bill, he said, "Jist try again, man. Dan Crawford and I had a share in his father, and if this ane's clean he'll be a wee bit exception to the maist of them." We did as he requested and found that there was something of the kind, though in a somewhat embryonic stage. Had it not been for his terrible misfortune, Craiksland would have been in the very forefront of the Clydesdale business when the boom came in the 'Seventies, for no one understood draught horses better, and he was well versed in back line history.

Mr R. Guthrie.

Craiksland's neighbour was Mr Robert Guthrie of Crossburn, so well known in connection with the Ayrshire Agricultural and Kilmarnock Farmers' Societies, and a prominent man in nearly every Ayrshire agricultural movement. He held the largest stud of farm-horses in the West of Scotland, requiring from twelve to fourteen pairs to work his extensive holding, a great portion of which was under green crop, and cultivated highly with Crosskill grubbers and other implements which involved toiling draught. Like his father, who came into the tenancy on the acquisition of the Fullarton estates by the fourth Duke of Portland, he would have nothing but browns and bays. He rarely, if ever, exhibited at shows, but many of his mares were of a grand, sound-built, active stamp, and no doubt holding Vandernoot blood, and dealers were always glad to get hold of something from them that might be put on the market. As a rule, all he bred he kept for his own work, whether colts or fillies. He had one specially good mare, sired by Clydesdale Tam by Arkley's Lothian Tam, which he served with Old Campsie when the latter was in 1868 the Ayrshire premium horse. The result was Young Lorne, a very stylish bay horse, which in the hands of Samuel Clark won the second prize at the Highland and Agricultural Society Show at Stirling in 1873. In 1873 he travelled in Bute, where he became sire of Rose of Bute's first foal—Rose of Bothwell. This half-sister to Rosebud, dam of Moss Rose, unfortunately foundered shortly after winning first prize at the Bothwell Parish Show. The great grand-dam of Druid was a Crossburn mare.

Mr Andrew Hendrie.

Mr Andrew Hendrie, whose name occurs in the pedigree of Farmer's Glory, the Shire horse brought from England and which acquired note as the sire of the dam of the Knockdon stud-horse Old Times, was a bit of a character in his way, and until his eyes went wrong there was no better judge. He came of an old Ayrshire horse-dealing stock, and married a sister of one of the numerous horse-dealing Kilbarchan Clarks. Setting up in business in Ayr early in the 'Forties, he did a large trade with the Ayrshire farmers, forming a medium of connection between the breeders and those who bought for the towns. He rented a place close to "The Fauldbacks," where the Ayr Horse Fair was annually held in those days, and his "string" was generally considered to be the best at such gatherings. Though he drove hard bargains—most horse-dealers do—he had a fund of dry humour, and his stories, anecdotes, and imitations made him generally welcome at most firesides. "Come away, Andrew," we once heard him addressed, on calling at a farmhouse intent on buying a heavy gelding; "you horse-dealers are aye growling. Are you never to get your ain?" "Oh, deid, and we'll get our ain," was the reply, "when we sport a black hat like the lum o' a portable threshing-mill engine on Sunday and a face as lang as the toun of Darvel, jist like your neebor the elder ower the way." Latterly his eyesight gave out almost entirely, and, of course, it was not easy for him then to buy on his own judgment.

After her husband's death towards the end of the 'Sixties, his widow, who was a very clever, managing woman, converted the place into a hotel. The late Duke of Atholl having rented rooms from, and quartered his Ayrshire cows with, Andrew when present at Ayr Show in 1861, the year his Grace's celebrated milking-trials were conducted in the yard, she named the place "The Atholl Arms." From its just being situate opposite the gate of the old Ayrshire Showyard in the Midton Road, the "Atholl" yard became favourite headquarters for Show Clydesdales, and more particularly Ayrshires, the representatives of the latter from the Knockdon Stud being walked down the previous night to undergo what was necessary and legitimate in their final preparations.

An interesting arrival at "The Atholl" on the afternoon before the Ayr Show was that of "Doctor" Bob Wilson, the Madam Rachel of Ayrshire cow-dressers, with his mysterious carpet-bag, and which it was generally known contained cakes of soap prickly with a hundred needles to puncture and swell up hollows in udders; blow-pipes, to pneumatically hide hollows between carcase of back and skin; collodion, to shape teats; and tapes of a flesh-coloured tint, to tie up the latter and check the natural flow of milk. We live in a more civilised and sensible age, and all such practices are fortunately now banished from the showyard.

Numerous Clydesdales, notably several of the Lord Lyon young stock, both colts and fillies, stood in "The Atholl" the night before earning their maiden victories, and were subject to the criticism of the few who were allowed the privilege of inspection. Many were, however, stabled across at the Old Ayr and Galloway Inn, which was Mr Drew's sleeping quarters when he did not happen to be judging—judges being located at The King's Arms.

Mr Oliphant Brown.

Prominent of old time Kirkcudbrightshire breeders was Mr Oliphant Brown, Shiel, New Galloway, a central figure in the Clydesdale horse-breeding world for thirty years, his period ranging from the later 'Fifties to the later 'Eighties, this covering some useful work in connection with the establishment of the Clydesdale Horse Society and the execution of the Clydesdale Stud Book. He was trained to everything connected with land management in Fife, his native county, and in 1851 he entered upon an engagement as land-steward with Mr Maxwell at Glenlee, in the Glenkens district of Kirkcudbrightshire. On the death of the laird of Glenlee, Mr Brown became tenant of Shiel. This remote part of Galloway, "the west" from out of which came Young Lochinvar, was in want of some one with a spirit of development at the time, and he soon effected marvellous changes.

Somewhere about 1853 Mr Brown started the Glenlee herd of Galloways and stud of Clydesdales. The former was dispersed in 1868 when he gave over twelve of his best heifer calves to the late Mr Cunningham, Tarbreoch, at what was at the time considered a handsome price. His chief showyard mark was, however, made with the Clydesdales, winning prizes at the Highland and other Shows with Glenlee Maggie and many other animals. He was partial a little to Lochfergus blood, though "Old Lochy had some few faults," he was wont to observe, as he handed you his silver snuffbox. Notwithstanding such minor faults he bought and travelled him in Kirkcudbrightshire, where he got Mr Peter Crawford's Crown Prince, the Glasgow premium winner of 1873.

When we were engaged getting up the Kirkcudbrightshire chapter of the Galloway history we did a drive through amongst all the leading breeders with the still living Mr John Thomson of Blaiket and Mr Brown. We spent a very happy night at Glenlee, and there was much talk over Pride of Scotland, the grand dark bay colt, bred by William Gray of Muncraig, by Clansman, which, when Mr Brown's property, travelled in Wigtownshire before going to Strathmore. The Pride won first prize as a two-year-old at the Highland Show at Inverness in 1874, when the property of the late Robert Brewster of Kilbarchan, and was subsequently sold to Mr James Walls of Kaipoi Island, Canterbury, New Zealand. Next evening at Muncraig Mr Gray rather rubbed it a little into the co-owners about parting with the colt too soon. Mr Brewster did not do well after he parted with this horse, and his stock was sold off under somewhat melancholy circumstances in the Glasgow Cattle Market in 1879. His best colt, Bonnie Scotland, second prize at Dumfries Highland Show in 1878, also went to the Antipodes.

"Shiel" was a man full of anecdote, and could tell many humorous stories of his experiences, and this quite outside of the Clydesdale arena. At Glenlee one year he was visited by a veritable plague of caterpillars, which threatened to devour everything. His neighbours, equally afflicted, were trying lime and all sorts of chemical washes. He laughed quietly to himself, and went away down to Castle-Douglas and Kirkcudbright and bought all the available live ducks in the market. "Shiel had gone daft on ducks," they said. Getting home all the web-footed lot, he set them in at the top end of the flaked-in turnip drills, and let them make their living. The ducks, finding themselves in a sort of paradise, soon cleared up everything, and "Man," he used to observe, tapping his snuff-box, "at the end o' a month you never saw such thriving turnips or such fat ducks."

Mr Brown, thinking, as he said, "I might get a foal or two off Logan's Twin," took the latter to Glenlee when his friend and ofttimes fellow-judge, the late Mr Alexander Young of Keir Mains, had done with him. In this, however, he was somewhat disappointed, though she bred to him at Shiel, Sally of Blackhills (282), which he sold when young to Mr Sinclair, Trochiehouse, New Galloway. He had a great regard for the old horse, and when he had to put him down in old age he found a grave for him close up to the hedgerow in one of the fields leading from Glenlee to New Galloway, placing over him a large boulder stone which had been gathered out of the adjacent ground in clearing it for purposes of ordinary cultivation. Frequently officiating as judge, his probity and independence being undoubted, it cannot be said that he was in any way committed to any fixed type. He was partial always to quality and action in the horses, but would forgive a little deficiency in this direction in the mares. "With so many short-ribbed sorts coming under you, you cannot well help admiring a mare with some bounds for breeding." Mr Brown left Shiel for Duchrae, in Balmaghie, Kirkcudbrightshire, but retired from farming in 1889. He died in April 1899, aged seventy-eight years. He judged at Perth Highland Show in 1887. His last success as a breeder lay in the victories of Cawdor Cup, the famous champion, and which was out of his mare Lady Lawrence. A mare which Shiel judged frequently, and was very fond of, was Rose of Bute, the mother of all the celebrated Roses family. He was for a long time chairman of the Glenkens Horse-breeding Society, and to a large extent was entrusted with the choosing of the stallion for the district.

Mr W. Gray.

Mr William Gray of Muncraig, Kirkcudbrightshire, was long in the front rank of Clydesdale breeders and exhibitors, and his knowledge, together with his probity and independence, caused his services as judge to be in much demand at all the leading exhibitions throughout Scotland, as well as at the Royal of England. Though his stud of mares was small it was very choice, and whilst quality was a notable feature, there was no falling off as regards size, weight, or strength of bone. His best mare was possibly Jean, by Lochfergus Champion, which, after she passed into the hands of Sir Robert Loder, became known as Whittlebury Jean. She won first prize at the Royal Agricultural Society's Show at Bristol in 1878, but is best known as the dam of Brewster's Pride of Scotland, alluded to in our notice of Mr Brown of Shiel. Mr William Montgomery has at Banks a daughter of Jean by the Whittlebury horse Stonehenge.

Of a gentle, genial manner, Mr Gray had not only numerous friends in his own county, but throughout Scotland. One cannot say that he was partial to any particular type, but he was a thorough stickler for the adage "No hoof, no horse"; and if horses before him were weak at the ground, he did not give himself much concern over them. Mr Gray died at Ilkley, Yorkshire, in October 1888, but his remains were brought to Muncraig, and he was laid to rest in the parish churchyard of Borgue, the funeral being largely attended by leading Clydesdale breeders and farmers.

Being anxious to clear up the obscurities surrounding the Kirkcudbrightshire pedigrees, we, in company with Mr John Thomson of Blaiket (who once owned a very good Ayrshire-bred horse, Enterprise, a Highland Show prize-winner) and Mr Brown, drove to Muncraig, dining on our way at Mrs Muir's, Lochfergus, where was bred Lochfergus Champion. The late Mr Muir, her husband, was a brother of Mr Thomas Muir of Bowhouse, Carmichael, the latter being the family headquarters. We stayed the night at Muncraig and had a fair good turn at the pedigrees. Muncraig could not, however, help one in any way regarding the pedigree of the dam of Moffat's Conqueror, the sire of Darnley, which was bred in this neighbourhood. All he could say was that "she was a clever, active little mare, and as like as not come of stock bigger than herself," and that "I've often seen such get stock much bigger than themselves." Along with Shiel he felt inclined to attribute Darnley's outstanding merit to the fact that Conqueror was by Lochfergus Champion, and that his dam, Keir Peggy, was by Logan's Twin (Samson).

Mr Alexander Buchanan.

A gentleman of very similar stamp to Muncraig was the late Mr Alexander Buchanan of Garscadden Mains, Dumbartonshire, an old friend, and who often judged along with him. His best mare in his later years was the famous champion Garscadden Maggie, a daughter of his Wigtownshire Victor mare, Lovely. This was considered to be the genuine stamp of an old-fashioned Clydesdale, being powerfully set on short legs, with well-rounded barrel and flat bones. She was modelled in bronze by the brother of Rosa Bonheur, the famous animal painter, and from this model we had taken the embossed seal of the Clydesdale Horse Society. When the Society presented two cups for competition at the Royal Agricultural Society's Show at Kilburn, London, in 1879, we had a model of Prince of Wales executed to surmount the male trophy, and that of Maggie for the female trophy. It would have been better if this had been arranged *vice versâ*, for Mr David Buchanan, who had succeeded his father in the tenancy on the latter's retirement, won the first with Druid; and our present King Edward secured the female cup with the Prince of Wales filly which Mr Drew presented to his Royal Highness over the Royal visit to Merryton in the month of January the previous year, 1878. Hospitable and the best of company, Mr Buchanan had a large circle of friends both in Glasgow and the surrounding country. He was present at the first show of the Highland and Agricultural Society at Glasgow in 1826, also at that of 1897, then bordering on his ninetieth year. He did not live long afterwards, and inside a year his son, who was seventy years of age, followed him to the grave. Mr Buchanan never went in for keeping stallions, and it was somewhat of a surprise to many when it was learned that David had bought the famous Druid, when a three-year-old, from Mr Hendrie of Kirkwood. Druid and Maggie represented his ideal Clydesdales—blocky, with good feet and pasterns, and possessing genuine Scottish characteristics. The Roman-nosed or angular profiles, made common by Prince of Wales and the south-country mares brought to Merryton, he had no liking for.

Mr Lawrence Drew.

It may be opportune at this point to notice the celebrated Mr Lawrence Drew, who has every right to be called the pioneer of modern draught horse breeding. He, at any rate, was the first to throw into it that enterprise which has made it what it is on both sides of the Tweed at the present day. His father, Mr Lawrence Drew of Carmyle Mills, was an enthusiast in breeding all classes of stock, but more particularly Ayrshires, and his herd had the name of being one of the very best in the Clyde valley. He also bred a few Clydesdales in an ordinary farming way, there being, as at Garscadden, no more mares kept on the holding than was necessary to do the work. He exhibited at the local shows with much success, and won also several leading honours at the early meetings of the Highland and Agricultural Society. Lawrence Drew, as he many a time said, owed most of his knowledge of stock to his father, whom he greatly revered. His own position in the Clydesdale world cannot be said to have been taken till he was commissioned by the Duke of Hamilton to purchase a horse and such mares as would take leading honours at the great International Show to be held at Battersea, London, in 1862, the year of the great exhibition. He, with much judgment, selected Sir Walter Scott and the Highland prize-winning mare known as Park's Maggie, the latter henceforward to be known as London Maggie, one of the most successful of showyard and brood mares he ever possessed.

Mr Drew bred many noted prize-winners, pure Clydesdales and Stud Book combinations, and at the period of his far too early death he was recognised throughout the world as the leading authority on draught horse breeding. Annual sales, attended by breeders from all parts of the world, were during the 'Sixties held under Mr Drew as manager, the last of these ducal gatherings being on September 7, 1863 (the Duke died suddenly in Paris in July that year), and Mr Andrew Hendrie, Ayr, came through and bought the five-year-old mare Rosy and the five-year-old mare Darling, the latter at £81, which was considered a good price in those days. In 1866 Mr Drew, who had been factor to the trustees, resumed his old position as tenant of Merryton, held a dispersal sale of all the stock on the place, the successor to the title, who had been a minor for three years, resolving to discontinue stock breeding. There was keen competition for the Clydesdales, and it was not till the hammer fell at £220, in competition against Mr Alexander Young for the Keir stud, that a grand four-year-old mare was retained on the premises. As every one knows, his ideas were to mate Shire mares with his Clydesdale horse, Prince of Wales, but as this is controversial matter it will best be avoided here.

Mr Peter Anderson.

Mr Peter Anderson, Gillespie, Glenluce, was a son of Mr Robert Anderson of Drumore, the founder of the celebrated Wigtownshire Clydesdale family, and represented by such noted horses as Victor, Salmond's Champion, Lochfergus Champion, and others; and in later days their descendants, Drumflower Farmer (286) and his noted prize-winning sons, Disraeli, Sir Colin, and Druid. Whilst getting together matter for the introductory history to the retrospective volume of the Clydesdale Stud Book, the writer spent several days with him in Wigtownshire, though we first became acquainted over harness horses at Ayr Show. He and his brother Robert used to exhibit at Ayr carriage horses of the highest class—all bought in Cumberland and Westmoreland and broke and trained by themselves. The class of harness horses handled by the Andersons was of the highest standard; and on more than one occasion they realised as much as 600 guineas the pair, a big price when it is considered that there were then no stud-books or annual fashionable gatherings such as we are familiar with nowadays. Peter's sister being married to Mr James Salmond of Benston, Renfrewshire, owner of Salmond's Champion, he had a strong connection with the Glasgow district. This was further strengthened by the marriage relationship of his family to the late Mr John Dick, Willowpark, Airdrie, noted for his love of fast trotters, and the owner at one time of the celebrated Scottish trotting horse Champion Douglas. Mr Dick managed the extensive Clydesdale and trotting studs for Mr John Hendrie of Kirkwood, and so far at least as Clydesdales were concerned, he (Mr Dick) acted upon Mr Anderson's advice. Hence we had at Kirkwood, Coatbridge, Drumflower Farmer and the two noted horses, Disraeli and Druid, already mentioned.

Mr Anderson was terribly afflicted with deafness, and it was hard to converse with him over old-time matter in relation to Clydesdale horses. Like most men whose hearing is dulled before its time, he was exceedingly studious and reflective. Naturally enough he thought a great deal of the Victor blood, though he was very broad-minded as regards the general principles of draught horse breeding. "The Victors," he used to say, "are very safe, and you must have an idea as to where you are going when you start to put mares to horses." In the matter of management of either draught or harness horses he had little if anything at all to learn from any one; and as to showyard vanities, though he may have valued the honour of wearing a judge's rosette, they never put him up or down. Not too successful latterly in farming, he was given an appointment with Messrs Carter & Sons, the well-known seedsmen, and he arranged all their beautiful stand at the Nottingham Royal of 1887, returning from his labours in the Clydesdale show-ring as judge to go on with his work as an exponent of the firm's capacities in the seed line. In recognition of his eminent services, the Council of the Clydesdale Horse Society made him an honorary member.

As is well known, it was the assimilation of old Lanarkshire blood, as represented by Victor and co-relatives, with the half-Shire and half-Clydesdale blood as represented by Lord Lyon's stock (Lord Lyon by Hercules (Clydesdale), dam Puppet by Iron Duke (Shire)) that made the Lyon family fashionable, the stock of Lord Lyon taking a very forward place at all the leading West of Scotland shows, as well as the Highland, throughout the 'Seventies, though with a certain section of the old school of judges they were not in favour. "Unless from Victor mares, or mares of the old Drumore blood, Lord Lyon gets nothing very remarkable," said Peter to the writer in presence of Lord Lyon's owner, the late Mr John M'Master of Culhorn Mains. Mr M'Master admitted this very readily, but instanced some few cases where Old Lyon, as he called him, had been successful when mated to mares outside of the Drumore family.

Mr John M'Master.

Mr John M'Master was perhaps more identified with dairying than with draught horse breeding,—his essay on Cheddar Cheese-making in the 'Transactions' of this Society is one of the most practical ever published,—yet he had a clear idea as to what was wanted in the modern Clydesdale, and this without any assimilation of Merryton ideas. "More bone, bigger knees and hocks, and more substance and weight generally," was the general trend of all his arguments in conversation. "At the same time," he said, "we must try and keep all the pastern we can." The "Young" Lyons were always rough-coated when the Ayr Show came round, and carried a free flow of feather. Old Lord Lyon was anything but a Scotchman's horse. He was widely framed, strongly furnished, and conveyed the idea of power, but he was of a lymphatic temperament. Any horses of this Lyon family which displayed action and merit in the show-rings were generally related to old strains hailing from Lanarkshire or Renfrewshire. Personally, there was no more nicely-mannered, more courteous, or more estimable gentleman than Mr M'Master. In getting up pedigree work, his kind efforts in this direction led to the clearing away of a good deal of obscurity so far as Wigtownshire horses were concerned.

The Kerrs of Lochend.

The Brothers Kerr of Lochend, Kilbirnie, in the Cunningham division of Ayrshire, were associated with the keeping of Clydesdales for more than half a century, sometimes in partnership. When William went to Newhouse, Dalry, the adjoining parish, they were generally to be found showing on their own account, though the colts were invariably sired by each other's horses.

They are best remembered from Lochend Champion, which won first prize at the Highland Show at Perth in 1861, and stood second to Sir Walter Scott at the International Show at Battersea in 1862, the horse being then entered in William's name. James Kerr is best known through his having owned the twice Glasgow premium horse in 1870 and 1871, Kerr's Conqueror (196), a dark bay hard-boned horse, which found much favour and patronage in Wigtownshire, where he travelled in 1872.

The Brothers Kerr, both quiet unassuming men, were quite content with such modest fees as £1 per mare. Indeed, the writer recollects how jubilant Mr James Kerr was (1870) when, in the Glasgow Agricultural Society's Committee Room within the Cattle Market Inn, Glasgow, he waited upon him to sign beneath the judges' award the condition of acceptance and receive his silver medal. The premium then was but £40, and the service fees payable at end of season £1, 5s. per mare. Six years afterwards (Darnley's year) the premium had increased to £150 and the fees to £2 at service, with £2 additional for a foal.

Old Rakerfield.

We called, when hunting up Ayrshire pedigrees, at Lochend, and got some useful lines, though not just exactly what we wanted, which was more minute details about William Fulton of Sproulston and his horses. "Old Rakerfield is the very man for you: he was Sproulston's intimate friend," was, however, good news, as we had been informed that the old man had been dead some time. Directing us how to find our way, for the place, we were assured, was a bit lonely, we bade Lochend good-bye. In regard to the class of Clydesdales handled by the Kerrs, we need only to point to numerous prize-winners which now date their descent to Lochend Champion and Conqueror.

Kilbirnie, with Beith and Kilbarchan, were associated throughout the whole of the eighteenth century with horse-breeding or dealing—the former with Kerrs, Beith with the Crawfords, and Kilbarchan with the Clarks. As is well known, the Crawfords up to the present day conduct a very large business in work horses of all kinds, but more particularly those suited for agricultural purposes or town work. Kilbirnie is now a mining and iron-working centre, and is almost void of all its old rural associations. We followed James Kerr's directions as well as we could, though the old pony had it all on the collar, and the windings and twistings were of the character of a purposely made maze. Francis Semple, the author of "Maggie Lauder" and other songs, was born and bred on the edge of Lochwinnoch, the wooded shores of which we could make out at times just to the northward of what might be called the Dead Lake of Kilbirnie, the latter illuminated at nights by the weird glow—somewhat suggestive of the fate of Lot's wife—of the Glengarnock Iron Works. Soon we were in a lone country, the land of Kate Dalrymple, "where peesweeps dwell and whaups and plovers cry eerie."

There was not a human being to be seen at hand; and the pony being of a docile disposition and one of the few that possessed the rare virtue of learning how to stand still, more valuable in many cases than high or flying action, we tied the reins to the post of the gate which guarded the headrig-like roadway, which, from our directions, we made certain would lead us to Rakerfield. The place is curiously situated high above the level of the lake, and is somewhat picturesque in its loneliness. Making out what we believed was the steading, a long range of buildings of the very old North Ayrshire style of farming architecture, we entered the first open door, which we found to be that of the byre, and pushed straight through to what we found to be the kitchen. Except for the ticking of an old eight-day clock in the corner, there was small evidence of the place being habited. However, we had not long to wait, for there suddenly appeared from an adjoining compartment an old man quite doubled up with age.

"And what may be your wull, sir?" asked Stevenson good-naturedly. On our telling him we were hunting up pedigrees for the Clydesdale Stud Book, he bade us take a chair and make ourselves at our ease. It was not long before we got to work. He and Sproulston had been together at Lanark Fair in their youth as regularly as it occurred. He had been with Mr Fulton and Mr Robert Anderson, Drumore, Wigtownshire, when the selections were made which, as mentioned in the introductory history to the Stud Book, laid the foundation of the Wigtownshire family of Clydesdales. "What sort of colts were there at Lanark Fair in the first days you went there?" we asked. "Oh, nice, clean flat-boned colts, with a lot of style and action about them. I don't know that they improved later on. I ken I was in ——," mentioning a favourite horse-dealer's hostelry in Lanark, "at the close of the Fair when things ran gey warm about the introduction of a horse from the South into the neighbourhood. It was said that the horses were all flat-boned before this horse, whatever he was, came in; and some went so far as to say that they would have been better to have bought this horse and sent him out of the country. Sproulston bought a good many from Hugh Elder of Colomba, Carstairs, and his brother, Peter Elder; but used to say that though Elder's sort had bigger bones and more hair than Frame's of Broomfield, the latter had more style and action and the flatter bones, and of the two he liked the razor-legged sorts best. He worked a good deal in the direction of getting the best points of both. He had a quick eye in a fair for anything that suited him, and very rarely made a mistake."

We had a long chat about Mr James Salmond of Benston, the owner of the famous Drumore horse Salmond's Champion, full brother to Victor. "Ay," he says, "Jamie Salmond kenned what he was doing when he bought that horse, for he had seen the mother at Sproulston before she went through into the Galloways with John Brown o' Brownmuir's guid mare, and he knew what sort of a good breeding horse was Sproulston Old Farmer. Ay, Salmond had Old Rob Roy. We never thought much of him hereabouts. He had a noise and a rinning in his nostrils, and was sometimes talked about as the horse that went with his nose in a pock. The reason he bocht him was, I think, because he had his father as a gelding." The writer may here refer to Rob's history in the Introduction to the retrospective volume of the Clydesdale Stud Book.

A further chat about John Barr of Barrangry, owner of Prince Royal, who, leaving Renfrewshire, settled down at Harperland, Dundonald, Ayrshire, brings us to Muircock (bred by himself), Robbie Burns, and others. We wish to have any discrepancies in these checked. Though the old man is fresh of memory, he proceeds to an old-fashioned meal-barrel in a corner and brings forth a handful of old stallion bills, some of them almost faded with years. They contain nearly all that we want, but we run over them to see if there's nothing that needs clearing up. This over, we enjoy a little of old-fashioned hospitality as dispensed by his son, who has just come in from the fields, and make our way back to the pony and gig,—our next queries, which are of a brief nature, having to be made in the immediate neighbourhood of Beith.

Mr Samuel Clark.

Mr Samuel Clark of Manswraes (originally of Damtown) was much associated in the stallion business with Fulton of Sproulston, and for quite half a century, beginning with the first Highland and Agricultural Society's Show at Glasgow, his name was to the fore as an owner of successful stallions. His different Clydes, Loftys, Princes, &c., have all been fully enumerated in the stud-book. A shrewd, canny buyer, he rarely made a mistake over a coming young one. As Peter Crawford remarked in the writer's hearing once when the talk was over a certain purchase for Manswraes, and about which comments did not run favourably, "I dinna care what ye say; if Sammel has bocht him, he'll no be a very bad ane." Like his friend

Sproulston, he was partial to the razor-legged sorts of Frame of Broomfield. He, however, did a good business with England, and could always dispose of types after Young Lofty, a blocky Glasgow premium horse, which he sold to Lord Beauchamp to go into Gloucestershire, where he became sire of Drew's famous prize-winning mare Countess. The late Thomas Shaw of Winnmarleigh, who bred the famous double champion of the Shire Horse Show, Vulcan, has often told us how he made his first start in breeding with horses got by Samuel Clark's Clyde (155); and he was good enough to send us a batch of his first stallion travelling cards, in which the Scottish successes of the horses were as clearly detailed as in the Manswraes cards.

Mr Andrew Leiper.

Mr Andrew Leiper of Yardbent, Strathaven, Lanarkshire, acquired any note he may have had as a Clydesdale breeder through Prince, *alias* Prince Charlie (603), which won the second prize in the aged class at the Highland and Agricultural Society's Show at Glasgow in 1850. This horse, as the property of Samuel Clark, travelled various districts throughout Scotland, and there is no doubt had an improving influence. Bred in the very centre of the Clydesdale country, Mr Leiper was an undoubted champion of the preservation of the characteristics of the old breed. He had a capital memory for forms, colours, and types, and when quite a lad, seems to have been most impressionable in the matter of such noted draught horses as came under his vision. He also possessed the somewhat rare habit—rare, at least, amongst Clydesdale breeders—of noting down events and incidents. This made him specially useful when pedigree history had to be sifted by the Editing Committee of the Stud Book.

Sandy Rodger.

It fell to the writer and Mr Leiper to interview Sandy Rodger, the aged leader of Broomfield Champion, regarding the lineage of the latter horse, which was generally put down as sired by "James Thompson's Black Horse." There were, however, two intermediate Glancers, and the descent had to be put right according to the different stages. Sandy was eighty-nine years of age at the time, and an inmate of Hamilton workhouse. Though his memory was still fresh for a man of his years, and more particularly so about Clydesdale horse-breeding matters, Mr Leiper, who knew the ways of the old man, thought he might need a little stimulant in this direction. "Sandy aye liked a wee drap o' rum when he was going round with the Champion," he said; and so he received a small drop in a flask, though the workhouse rules were against anything being done of an illicit character in this direction. Sandy at first did not seem to understand the object of our mission, thinking, indeed, that we had come to ask about his old master, James Frame, and treated us to a poem of his own making, which was all relative to the ability of Jamie Frame and his enterprise in carting lime, horse-breeding, and everything connected with agriculture. When we mentioned Frame's Darling, the dam of Glancer I., son of Thompson's Black Glancer, and grandsire of Broomfield Champion, he warmed up immediately, and explained in every detail the parentage of the latter famous horse, as fully detailed in the introductory history to the retrospective volume of the Clydesdale Stud Book. It is needless to state that he thought the world of Champion, a dark bay with four white legs, in every way shapely and vigorous. He spoke much in praise, however, of Mr Frame's two grand mares, Darling and Brown Bess, the great-granddam of Champion, who was, curiously enough, out of a grey—a mare of some merit bred by Mr Purdie of Spittal, Carnwath, and which, when mated to Glancer II., belonged to Mr Orr of Shotts.

Darling was about the first mare which ever Sandy worked in cart or plough, and he thought her one of the cleverest and wisest. He seemed to think a good many of his old charge's excellences came from this mare, though Brown Bess was one of the best of her kind. The latter Mr Frame, on more than one occasion, rode to Glasgow Market. Glancer II., sire of Broomfield Champion, was known as the "lame horse," from a slight accident which befell him when a colt, he having slipped one of his legs between the planks of a wooden bridge on the steading of Broomfield. He showed no lameness after he grew up, and was much thought of as a sire in the neighbourhood. Poor old Sandy did not live long after he had given us his most useful and interesting story. We opened a subscription sheet to try and take him out of the workhouse, but Mr M'Kean, Lumloch, who had been at the head of a small party who, thirty years previously, got him a testimonial, which took the shape of a small sum of money and a silver watch, was of opinion that he was better where he was, provided that they might give him a few little indulgences in spirits and tobacco. The manager of the workhouse, who was interested in his old intimate, the last of an old lot of leaders which comprised Tommy Shearer, Sandy Barbour, and Laudon Cranston (the Bone-setter), who travelled his own horses, arranged to do this without any outside intervention; and Sandy passed away quietly in his ninety-first year. Mr Leiper lived to a ripe old age, and took an active part in Clydesdale matters up to the last.

It was unfortunate that breeders, in such stallion handbills as they subsequently circulated, only made mention of descent from Broomfield Champion on the male line. There were, however, a very grand number of fillies got by him which subsequently became brood mares, many of them prize-winners. His old leader's memory, or such as remained of it, lay all with the colts; and though Mr Leiper could suggest some mares, he was not equal to recalling the facts. Indeed, as with most people who attain to a very old age, his recollection of the events of his early days was much greener and fresher than of those of a more modern period. Certain it was at any rate that Broomfield Champion was the first horse in the Clyde valley of outstanding note as a sire of superior stock. Any colts by him possessing a fair amount of merit were reserved from the castrating knife, and fetched good prices as sires to travel in all parts of Scotland, as also in England.

Mr Peter Crawford.

The late Peter Crawford of Dumgoyack, Strathblane, is still worthily represented by a family of sons who are more or less identified with the Clydesdale horse-breeding interest. He came right through the mill, from stallion leader to leading stallion owner, and there was very little of the history of our famous Scottish breeds of horses or the men connected therewith that he did not know. He was at the head of stallions belonging to the late Samuel Clark, with whom he was more than once in partnership, so far back as the first Highland and Agricultural Society's Show of horses, and which was held at Glasgow in 1826. The display at the Glasgow Show of the Highland was not altogether a very satisfactory one, possibly from the fact, as the late Mr Alexander Buchanan, who was present, expressed it, that the harvest was close at hand at the time, and farmers did not give much heed to horse matters after ploughing-matches, then all the rage, were over. The West-country breeders had also established an excellent agricultural show of their own in the Campsie district, and not far from where Peter earned much of his fame and the younger Crawfords were born and bred. He was a tenant of the late Admiral Sir William Edmonstone, Bart. of Duntreath, the plucky though somewhat eccentric old nobleman who, when the Irish obstructionists were at their highest point of power in impeding Parliamentary progress, literally lived and slept in the House of Commons in order to be present at every division.

The veteran tenant of Dumgoyack, who was very regularly to be found on Sundays in the gallery of the parish church behind the Duntreath family pew, used to say "Oor minister's a gey pawky ane. He disna pray for the *Army*, Navy, and Volunteers, but for the *Navy*, Army, and Volunteers; and the auld Admiral I can hear aye say 'Hear, hear!'" Whether the parson benefited or not by improvements to his manse we know not, but the Dumgoyack steading boasted none of the loose-box or other commodious arrangements which are associated with the fashionable draught-horse establishments of the present day. As an English gentleman, one of a party from the south in search of a horse, observed afterwards to the writer, "It was like putting ferrets into a burrow and bringing out stallions from byres, barns, and every corner about the place—and a grand lot they were, every one ov 'em, and beautifully groomed too."

It would be hard to say which was the best horse that ever carried the green ribbons of Dumgoyack, for Peter had handled many winners outside of those which he had held in partnership with Samuel Clark. Lofty Benlomond, the Glasgow Agricultural Society's premium horse of 1859, and first prize at the Highland and Agricultural meeting at Aberdeen in 1858, was one of a real good old-fashioned type. Lofty, first as a three-year-old at the Kelso meeting in 1863, he also thought a good specimen of the old Clyde breed such as he was familiarised with in his younger days. With Rantin' Robin he beat the famous Prince of Wales at the Dumfries Highland and Agricultural Society's meeting of 1870; but he never cared to allude to this victory, though he claimed Robin to be a very good horse. The best horse of his later days was undoubtedly the Kintyre-bred horse Ivanhoe, the Highland and Agricultural first prize winner at Dumfries. This grand old type of Clydesdale won the Glasgow premium in 1878, the latter up till this time carrying with it the Blue Ribbon of draught-horse breeding in Scotland. As a rule the Dumgoyack horses were blocky and short-legged, with flat bones, and never without hoof. They also lifted their feet clean, and "gave a good show" either at walk or trot. In alluding to the horses with which he was early in life associated, he said, "We did not want such very big horses then, nor for a long time after; breeding was all for farm work, and clever clean-legged horses with good action sold best." The veteran of Dumgoyack was rapid at coming to a decision—possibly a little too much so.

On one occasion he agreed to act as judge, an office he always felt a reluctance in holding. Something like a dozen yearlings were given him to commence with, and onlookers were beginning to wait for the usual walk, trot, lifting of hoofs, and what then, as nowadays, was a general waste of time. They had just finished their second walk round the ring when Peter stepped up with his thick oaken staff and struck them as they passed in order of merit—*first*, *second*, and *third*. There were no commendations made, the further verdict being "Trash, a' trash!" It is needless to state he was not asked again to officiate, as to keep up the popularity of even a parish show nowadays the veriest weeds must be looked at in an interesting way. Not to give a colt or filly a glance means that the exhibitor will not care to come forward with his stock again.

The veteran departed this life on 19th December 1891, having won all possible honours, and sold horses to all parts of the world, his first important transaction being his disposal of a colt by Sovereign (first prize colt at the Highland and Agricultural Society's Show) to Lord Belhaven at the then handsome figure of £160, his lordship presenting him to the Grand Turk. With a fine open countenance, Peter had rather an appearance out of the common, and with a sturdy independence of character it was a pleasure always to do business with him. No matter what comments were made about any one's horse he would never say a word against it, or pass any remark which might, he thought, injure his neighbour's property or interfere with his making of a market.

Mr R. M'Kean.

Mr Robert M'Kean, Lumloch, a son of Robert M'Kean of the same holding identified with The Farmer of the Drumore pedigrees, was a noted judge and breeder in his day, and may be said to have represented the Cadder parish in this way. Like his old friend Mr Drew, he had been from his youth amongst Clydesdale horses and Ayrshire cattle, and was an undoubtedly good judge of both. He had a few good mares at Lumloch which dated back to his father's old stock, and which were mostly of Broomfield blood. He won the Glasgow Premium with Premier (595); but the best horse from a breeding point of view he ever owned was Prince Charlie, which, when travelling in the Ardrossan and Saltcoats district in 1873, did much to establish history by becoming the sire of the Flashwood mare which, mated to Darnley, produced the noted horses Macgregor and Flashwood. Mr M'Kean had a nice, homely, genial disposition, and was always equal in company to tell some anecdote bearing on the general conversation.

Mr M'Kean was fond of good, old-fashioned sorts, and was for this reason rather partial to Galloway blood. He proved a very useful member of the Editing Committee of the Clydesdale Stud Book.

Mr D. MacFarlane.

Mr M'Kean's name quickly brings to one's mind another most useful member of the Editing Committee, a noted Dumbarton Clydesdale judge, the late Mr Duncan MacFarlane, of Torr, Helensburgh, whose stalwart and portly form was familiar in all northern show-rings. He judged Clydesdales at the Carlisle Royal Agricultural Show of 1880 along with the late Mr Andrew Mitchell of Alloa, the well-known breeder of Shorthorns. He bred two outstanding horses in Lord Clyde, which was first in the aged stallion class at Stirling in 1864, and Prince of Wales, first prize two-year-old at Inverness in 1865: the latter he always claimed to be *the* Prince of Wales. Mr MacFarlane used to wax exceedingly eloquent over what a true Clydesdale stallion should be like, and after enumerating the usual ground points as to their being round and deep at the barrel, wide and broad at the torrs, would insist upon them having broad foreheads, full big eyes, and big lugs (ears). Darnley, he thought, was a wee bit powney-lugged; his ideal head being that of Mr Johnstone's (of Lochburnie) Crown Prince, which certainly was a horse possessing a very large amount of old-time Clydesdale character. He did not by any means like small Clydesdales, or what he called flash-legged sorts—*i.e.*, colts with a great profusion of feather but not much bone in front of it.

A representative breeder, stallion-owner, and judge with whom Mr MacFarlane often acted was the late Mr Alexander Galbraith, of Croy, Cunningham Killearn, Stirlingshire. His best horse was the renowned Topsman; but Tintock, a half Shire, was quite the equal of the latter as a sire of stock, one of his progeny—the Auchendennan mare Darling—being the dam of Damsel of Auchendennan, which was practically invincible in Scottish show-rings. Mr Galbraith's only surviving son is head of the great American Clydesdale horse-breeding firm of Galbraith Brothers, Janesville, Wisconsin—a firm which has done an immense lot for popularising the Clydesdale in the Western States of America.

Mr Alexander Young.

One of the most notable authorities on Clydesdale horses was the late Mr Alexander Young, of Keir Mains, Dunblane. He put together and managed the famous Keir stud, and was responsible for the production of Darnley and many other noted horses and mares. He was a frequent judge, and was held much in esteem throughout the Clydesdale world generally. Long retired from interests agricultural, he departed this life at a ripe old age on 21st December 1902, the last survivor of a very old school of Highland and Agricultural Society Showring judges.

The Upper Ward.

Though the Upper Ward of Lanarkshire, the original cradleland of the Clydesdale, lost its position largely through the dissemination of the breed throughout the Lowlands and north-eastern Highlands, and the foundation of studs in the Lower Clyde valley such as those of Frame of Broomfield and others, who entered heartily into the emulation of showing when the Highland and Agricultural Society's exhibitions commenced, there were many, like the Somervilles of Lampits, the Muirs of Bowhouse, and the Weirs of Sandilands, who still retained their ancient breeding instincts and their hereditary love of the old-fashioned stamp as represented by quality, style, and action. Till at least twenty years after the rebellion of 1745 there was small demand for agricultural horses of the modern lorry or dray type. Colts bred and grazed on the rich Clyde haughs at the base of Tinto were well grown at two and a half years old, when they were taken through to Ayrshire and Renfrewshire to plough the lea for oats. Seeding and harrowing over at Easter, they were invariably found to be in good fettle for the heavier and more intense cultivation of the Lothians.

That the systematic breeding of Clydesdales in the Upper Ward had a very ancient history may be noted from the fact that octogenarians (1878), bred and reared in the district, who had conversed with their grandfathers on the subject, were all of one opinion—viz., that special attention had been paid to the subject as far back as hearsay memory, in the days before printed records could be expected to cover. The Thomsons of Lochlyock, as mentioned in the introductory history to the Clydesdale Stud Book, were amongst the first, if not the very first, to introduce Black Horse blood into the neighbourhood, and to have altered slightly the ancient contour and character. There were several standards of size and weight amongst the Flemish or Flamand Border breeds introduced into the country, and those brought into Lanarkshire most likely were about fourteen hundredweight, which was about a couple of hundredweights over the weight of Scottish native stock.

In our run through the Upper Ward we met many—amongst others Bailie Somerville of Strafrank, a member of the Lampits family, and who, after years of successful business in Lanark, was enjoying the ease of retirement—who could speak of the old glories of Lanark Fair. Though he could not go back in memory to the ploughing-match held at Lampits under the auspices of the Highland and Agricultural Society in 1804, he had heard it spoken of, and as to the special excellence of the twenty-three pairs of horses engaged. These early ploughing competitions of the Highland and Agricultural Society did a great deal towards stimulating draught-horse breeding at the commencement of the past century, and they may be said to have completely driven out haulage by oxen. The mother of Mr Thomson, the tenant of Lochlyock, when we visited the latter farm in 1878, was still living, though over ninety years of age. Though very deaf, her memory was still quite fresh, and she had a happy reminiscence of being one of a party who danced at the rejoicings on the top of Tinto when news arrived of Wellington's victory at the battle of Waterloo. The Lochlyock mares she remembered as having a high local reputation, and their stock was much sought after in her early days. Beyond the knowledge that they were blacks, with streaks of grey hair on the under parts of their bodies, the old lady could not well recollect. Mr Thomson, her son, however, gave us to understand that these streaks of white or grey hair were held to be indicative of hardiness. If so, this would readily point to the fact that, though the Black Flemish blood was associated with greater size, the old-fashioned Lanarkshire blood, as contained in the greys, asserted in crossing its power through heredity.

The Upper Ward farmers were for a long time interlocked by marriage, and the family relationships no doubt extended to the intermingling of the studs. The Clarksons of Shotts Hill Farm and the Somervilles of Lampits all seem to have drawn on Lochlyock blood, either by purchase of fillies or by the use of colts bred from Lochlyock mares. The original Lochlyock black mares were evidently descended from a pure Flamand Border stallion, as Bakewell in 1734, the date of the introduction of the Lochlyock black horse, had not started his crossing experiments with the Flemish black stallion and the old sooty, massive, but in every way English, black mares. All this Upper Ward half-black blood in time got fused with the Bakewell introductions, a few of the very old school, fortunately, in the subsequent interests of the Clydesdale, remaining out. The horse Blaze belonging to Mr Scott of Brownhill, winner of a premium at a show held within the Grassmarket at Edinburgh in 1783, seems from descriptions and portraits of descendants in Professor Law's book on Domestic British Animals, to have been quite free from the Bakewell or any other medium of Dutch influence. The bay mare "Meg" in the work alluded to, with her long back, well let down hocks and stifles, and pasterns sloping down into proportionate feet, would, 80 years after she stood for the artist, if given a fringe of feather fore and aft, prove a very typical representative Clydesdale of the present day.

Mr James Weir and Mr Tom Muir.

Blaze's blood has been long commingled with the common Clydesdale stock of the country, but Mr James Weir, so well known in the judging ring, has still some stock which are descended from the famous horse owned by Mr Scott, his great-grandfather. Mr Weir's father, an octogenarian when we called at Sandilands (the now veteran judge was busy mowing hay that day), was upon a visit to another octogenarian neighbour, Mr Tom Muir of Bowhouse on the Carmichael estate, one of a family famed in Clydesdale history through the tenants of Sornfallow in Lanarkshire and Lochfergus in Kirkcudbrightshire. A great tall man, slightly stooped with age, of massive features, with a few black hairs streaming through his silvery locks, Mr Muir gave one an idea of the class of old Lanarkshire burghers whose chief duties were the repelling of English invaders. On going on to Bowhouse I found him and Mr Weir discussing old-time Clydesdale horse history. Both of them could go very far back, just if anything a little too far back for my special purpose, which was to fill up some links in the pedigree chains of early showyard champions. They talked of the horses as belonging to particular parishes, the "Wistanby horse," and the "Cumbernauld horse," and so forth, and could bring to mind when exceptional prices were realised for grass colts at Lanark Fair. "They had no names till they left us," said Mr Muir, and "we lost sight of many of the best of them."

The introduction of the Black Blood by the Lochlyoch Patersons, the story of which we had heard but a few hours previously, naturally enough came up for discussion. The two old gentlemen were quite conversant with the Lochlyock narrative, but did not sympathetically espouse the suggestion that the Clydesdale owed its reputation entirely to this, the general impression left on the mind of the writer at any rate being that Clydesdale horses had earned a distinctive reputation long before foreign blood had ever been introduced into the valley.

This, it may be said, was entirely in accordance with the Lanark Fair memories of old John Stevenson of Rakerfield, as already detailed in our Ayrshire notes, when he was assisting Fulton of Sproulston in making his usual purchases. The two old gentlemen had good recollection of hearing the so-called ideas of improvement discussed. It seems possible to think that the Upper Ward was a little bit too conservative in sticking up for quality and nervous action and temperament. In conversing about the introduction of alien blood, they made it plain that, so far as the Upper Ward was concerned, there was no great sympathy for bringing in anything over the breeding of which hovered a doubt, their motto being "better the guid kenned than the bad unkenned." Hardiness was a predominant feature in the Clydesdales of their early days, and there was no great rush for size amongst the western buyers. The Lothian men had, however, been pushing out in this latter direction, and had given considerable encouragement to Bakewell and his English, Black Horse, and Flemish crosses, as we have seen. The colts by the latter were made much use of in the Lower Clyde valley; and it is possibly owing to the fact that the men round the base of Mount Tinto determined to stand by their old sorts, that the ancient town of Lanark ceased to be the centre of the great Scottish agricultural horse-breeding industry.

Neither Mr Muir nor Mr Weir could recollect seeing the early Bakewell introductions into Scotland, though they could talk freely from hearsay as to the Black Horse period and the then existent jealousies.

Sir Wm. Stirling Maxwell.

The late Sir William Stirling Maxwell, Bart., and his factor, Mr Young of Keir Mains, may very well be taken together in writing any chapter of Clydesdale history, so far as the Keir stud was concerned. In its very early days, 1775, Keir, when the property of Mr Charles Stirling, was identifiable with the bleaching of all forms of Dunfermline damask linen, a business in which large fortunes were then made. The place seems, however, to have been very early associated with stock-breeding, but it was not till 1850 that Mr William Stirling of Keir began to compete for showyard honours with Shorthorns and Clydesdale horses. In 1852 a stallion was purchased from Samuel Clark, viz., Clyde (156), and which had won first prize as a three-year-old at the Highland and Agricultural Society's Show at Glasgow in 1850. After some minor successes Mr Stirling gained some outstanding victories, notably in 1859 at Perth in the Four Counties Show, with the mare Keir Sally, the two-year-old Molly, and Forth, the stud horse, the latter by Clyde above mentioned. Forth won third prize at Battersea Royal in 1862, where the stud was to the fore in the mare class with Nancy.

Sir William Stirling, who succeeded to the baronetcy in 1865, and assumed the name of Maxwell, though he got together a grand stud of mares and won many prizes, could not be said to have gained much success as a breeder until he got hold of Peggy, by Samson, otherwise Logan's Twin, and with which he won first in the brood mare class at the Highland and Agricultural Society's meeting at Stirling, and the Gold Medal at Glasgow the following year. "I was so pleased with the success of Peggy and the good stock by Samson that I saw when out judging, more particularly on our Cadder estate, that in 1869 I brought him to Keir as stud horse," said Mr Young to the writer afterwards when discussing Darnley's pedigree. Here it may be necessary to remark that though it is now stated that Mr Young, within the Glasgow Stallion Showyard, Glasgow, declared to the Doune hiring deputation that if they chose Moffat's Conqueror (Darnley's sire) he would give him the best mare at Keir, the fact remains that she would not breed to the then Keir stud horse. Mr Young distinctly stated this to the writer when he visited Keir for the purpose of writing an article on the stud, and he subsequently made the same statement to the Editing Committee of the Clydesdale Horse Society when the retrospective volume of the Clydesdale Stud Book was under revision. There were many first-class prize mares at Keir, and Peggy, with all her honours, did not earn her title to be *the best* till mated with Conqueror. None of her progeny were anything like so successful as Darnley, and it will be through Darnley's descendants that her historic reputation will always be owing.

Though deferring to Mr Young in everything connected with the stud, Sir William was an excellent judge. He was the first Vice-President of the Clydesdale Horse Society, but only attended one meeting, the first held under the fully constituted Council in the Society's temporary offices, 89 West Regent Street, Glasgow, use of which was kindly granted by Mr Hendrie of Kirkwood, treasurer, Lord Dunmore being in the chair. He died suddenly at Venice a short time afterwards, to the great regret of all Scottish agriculturists as well as of the literary world.

Merryton—"Prince of Wales" and "Mary."

Previous to the first auction sale in May 1875 we visited Merryton by appointment with Mr Drew. This was shortly after we had gone over the Knockdon stud of Mr James Nicol Fleming, where was still to the fore, though getting worn out and not fully equal to the full round of farm work, Darling, the dam of Prince of Wales. Acting on a suggestion we threw out at the time, Mr Craig, some time after, with the consent of Mr Fleming, sent her through to Merryton, where she might prove a breeder's object-lesson when seen in company with her distinguished son. At Merryton she ended her days pulling about meat-coolers, her legs remaining fresh to the last. As is well known, Prince of Wales got his straightness of hocks, about which there was so much cavil, from his dam, who inherited it from some ancestor on the dam's side, as General, his sire, like Sir Walter Scott, the grandsire, and Samson, her sire, had nice, well-bent, well-set hind legs.

The big full-sized, gold-and-brown effigy of Prince of Wales, painted on wood, had not yet surmounted the archway which led into the courtyard behind the dwelling-house, and there was nothing particularly remarkable about the place save the large, substantially built and commodious stable, generally alluded to as "the Long Stable." Here were generally stalled all the best mares, the numerous prize tickets above their heads readily enough betokening the champions. On the occasion of our visit the stud comprised thirty-five mares and fillies, three years old and upwards, with a number of younger colts and fillies in the adjoining outhouses. Mr Drew had not at that time gone very extensively into the system of crossing Shires with Prince of Wales, and there were many mares like Hawkie, Old Loudon Maggie, and Young Loudon Maggie, her daughter, subsequently knocked down to our own bid of 335 guineas at the sale for Mr J. Stewart Hodgson, Haslemere, Surrey. She was in foal to her own sire, Prince of Wales, at the time, and there was a buzz of comment at the ring-side when this little fact was mentioned. Mr Drew, always afterwards down on the Clydesdales for being "far too sib," was certainly not against in-breeding at that time. His best brood mare then was the big chestnut Mary, the dam of Lord Harry by Prince of Wales, which had the previous week won the first prize for yearling colts at the Glasgow Show. This mare had undoubted Shire characteristics, but of her breeding nothing was known. It was the statement that the first prize two-year-old colt at Aberdeen (King of the Princes) was out of *a full sister* which led to the fierce correspondence that ultimately culminated in the formation of the Clydesdale Horse Society, already alluded to, and the publication of the Clydesdale Stud Book. As some little extra interest attaches to Mary on that account, we shall give our remarks as made in our article written at the time from notes taken in the presence of Mr Drew and the mare herself.

"The first on the list is Mary, the big chestnut mare which took first prizes this year at Ayr and Glasgow in the brood mare classes. She is undoubtedly an exceedingly well and proportionately made animal of great substance and strength of bone, points which she combines with well-sloped pasterns and uncommonly good feet. When recently exhibited she was in very high show condition, and many were suspicious of her fine appearance; but her strong supports are only seen to advantage under a heavy top. If she lacks anything that an animal of her kind wants it is a little more fulness of hip under the hock, for though not so bad as Mr Hardie's filly is in that way, her quarters perceptibly round in a little too much. Some people are of opinion that she is not a true Clydesdale, and certainly her fore shapes are not quite those of the home-bred, but if her strain is not clear it is an improvement and will be worth working upon. She was originally purchased as a yearling in Dumfries market, but unfortunately her pedigree was unknown. Mr Drew, however, did not get her till a three-year-old, when she was with foal."

Except to say that though her pasterns were well set they were short, and to explain that Mr Hardie's filly was Ranee, the property of the late Mr Hardie of Bo'ness, Linlithgow, a very popular showyard winner, there is nothing to add to the above thirty years afterwards. The colt foal was sold to go to America, and nothing is known of its subsequent history. It most likely was sired by a Shire horse. Drew did not concern himself much about it, his great idea being to get a foal from Mary to the Prince of Wales. This, however, did not prove so easy as it would look on paper, for the famous son of General resented with much temper all efforts towards an alliance, and it was only after a desperate stratagem that the horse and mare were actually mated. The famous colt the Lord Harry, the Glasgow winner alluded to, was the result. Though subsequently a disappointment at stud, he was one of the most noted colts ever seen in an agricultural showyard, though always run hard by another Prince of Wales colt, Prince George Frederick of the Auchendennan stud of Mr John M. Martin (who bred him), and latterly the property of old Sandy Weir of Newhouse Mill.

In discussing the breeding of draught horses generally in the well-known old back-parlour so familiar to the many from all parts of the world who visited Merryton, conversation turned on what the horse could give to the progeny, also the relative contribution of the dam. The suggestion being made to see the champion family group, Mr Drew immediately gave his orders accordingly, and we adjourned to that portion of the stackyard which afterwards became the sale-ring or avenue (the first sale was in the old farmyard). Of what took place we may here quote from the article alluded to as follows:—

> "I had an opportunity of looking at the horse (the Prince of Wales) the other day when he was drawn up alongside of the big chestnut mare and their produce, the big chestnut colt which was placed first at Glasgow. A more valuable trio I never saw before. The Prince was looking as well as ever, his grand contour round and sound, well tapered feet and pasterns, and characteristic head at once captivating the eye. His hocks are certainly straight, but his thighs are unusually powerful. The fulness above the hock joints on the insides was visible, but a well-skilled veterinary surgeon who has a great knowledge of the breed at once declared it to be muscle, and, as such, a point to be reckoned in the

horse's favour. Nor is his action a whit less free than it used to be, for he steps out before like a trotting stallion, and standing from behind you can see the soles of his feet clearly every time he lifts."

The Prince of Wales was but nine years old at the time we wrote the above, and could make a really grand show of himself; indeed, no draught horse we have ever looked at, before or since, ever carried himself better, such grand spring and gaiety at the trot, and such steady, well-paced, extensive, regular, and evenly action at the walk. He was a bit tempery, and it was risky for a stranger to go into his box, more particularly when feeding. Though he lived to a good old age as Clydesdale horses go, he gave more than his share of concern in ill turns from the outset. He was Darling's first foal, and when it was seen at Drumburle that she was going to have a difficulty, Willie Greenlees of Campbeltown, then a page-boy to Mr Fleming at Kilkerran House, was quickly flung on a horse's back and despatched to Maybole for Charles Tennant, the local veterinary surgeon. Mare and foal in the end did well, and the latter's career after weaning was, if the Rantin' Robin defeat at the Dumfries Highland and Agricultural Society's meeting be left out, one of continued success. One market afternoon in His Lordship's Larder, Glasgow, when he was four years old, he was on sale to an Australian gentleman and the bargain was very nearly struck. Mr Drew's elder brother Robert, new home from Australia, after a short conversation with the tenant of Merryton as regards the horse's merits, chimed in, and the result was that at £1500 (there would, of course, be a luck-penny) the horse remained in the old country to the great benefit of the breed.

Lawrence Drew died in March 1884, never having been seen at any agricultural gathering after the Glasgow Clydesdale Show, a fortnight previous to his decease. His funeral was largely attended, for though many did not fall in with his opinions, all recognised his worth and his pioneer enterprise in a good cause. The dispersal sale, so different from the initial one of nine years previously, drew breeders from all parts of Scotland and England. Again was his old stud horse Prince of Wales put into the market, and at £900 (a long price for a horse of 22 years old, which had descendants in nearly every Scottish parish and every corner of our Colonies) he found his way back into the hands of his owner when a colt, Mr Riddell of Blackhall. So long reserved for Shire mares, he proved a great and most welcome boon to all those who had mares and fillies by Darnley, and in his later years achieved as much success as he did in the younger days of his career when standing at the almost prohibitive price of £40 per mare. The old horse dropped down dead in his stall on 31st December 1888, literally going out with the expiring year.

Royal Visit to Merryton.

A historic event in Clydesdale, and indeed in draught-horse breeding generally, was the visit of his present Majesty when Prince of Wales to Merryton in January 1878. His Majesty, with the late Crown Prince of Austria (who was not at Merryton, however) and the unfortunate Prince Imperial and a number of distinguished parties, were shooting-guests of the Duke of Hamilton at Hamilton Palace. Though there was no stage rehearsal, Mr Drew got through his parade in a fashion which would have done credit to an Astley or a Hengler, and some Continental circus-like character was lent to the display by the appearance of the young "lassie grooms" in short gowns and petticoats leading the various colts and fillies. It had been Mr Drew's idea for some time previous to this that in washing feet and pasterns and preparing somewhat refractory young colts for shows the feminine hand and touch was found to be more tender than the masculine, and that being also less harshly spoken to the young stock were less nervous. With a large amount of young stock to handle and not too many young male servants about the place there may have been something in this, and it was marvellous how tractable were the colts and fillies so groomed and handled. A dramatic incident was given to the parade through the Prince Imperial jumping on the back of Lord Harry and riding him round the yard. "Anybody ever been on his back, Mr Drew?" was the Prince's query as the horse frisked and gambolled about, showing a good deal of spirit. "No one to my knowledge, your Royal Highness." This question to a draught-horse breeder was naturally quite unexpected. The next minute the Prince was on the horse's back, considerably to the astonishment of the company and the owner, who, speaking afterwards of the incident, said, "I was really glad to see him off, and to think what a guid thing it was Lord Harry and not the Auld Prince himself." His Majesty, in congratulating Mr Drew on the appearance of his stud, said, "They are a grand lot of mares, Mr Drew, but mostly Shires." "All the better of that, your Royal Highness," was the quick response. He afterwards presented to the Prince a filly by Prince of Wales which was good enough to win the Clydesdale Horse Society's cup at the Royal at Kilburn in 1879. In the autumn of 1878 he sent seven of the best mares of his stud to Paris in reciprocation of the honour conferred by the visit. To get them across the Channel and home occasioned him much anxiety. The Merryton trophies and Paris gold medals were all scattered by auction during the Glasgow Highland and Agricultural Show week of 1897.

Messrs Montgomery.

Though the Messrs Andrew and William Montgomery of Netherhall are young in comparison with the Clarks, Crawfords, and a few others who commenced their histories with the pioneer shows of the Highland and Agricultural Society, the senior member has been long enough at the business to have reached the veteran stage; and the firm, individually and as partners, have during the past forty years carried out more transactions, home and foreign, in Clydesdales than the aggregate of all Clydesdale dealing during the previous forty. Sons of the late Mr Hugh Montgomery of Banks, Kirkcudbright, they were bred and reared in a corner of East Galloway to which the late Mr Muir of Lochfergus had transferred his Lanarkshire Upper Ward sympathies. Having leased Boreland farm, on the Balmaghie estate, Mr Andrew Montgomery made his first start in the Clydesdale line with two stallions of more than passing merit, Farmer (288) and Pride of Galloway (601). Very early his knowledge of draught horses was recognised in the south as in the north, and in 1877 he officiated at the Bristol "Royal" in a mixed ring of Clydesdales and Shires, stud books and special showyard classing having still to make their appearance. Differing with the other two judges—both southern men—as to the relative merits of the mares, he said he would allow them their way if their particular fancy would pass the veterinary surgeon. This was agreed to, and the result was that Mr Drew's famous Mary Gray, by Topsman, which Mr Montgomery championed, was placed at the top. Since that time Shire breeders have attached greater importance to the necessity of having horses without side-bones. In 1878, when our present Majesty King Edward VII. was Chief Live-Stock Commissioner at the Paris Exhibition, Mr Montgomery acted as a judge of draught horses, no doubt holding out strongly for the seven select mares from Merryton, without which Britain would have been, so far as the draught horse section is concerned, quite unrepresented.

A strict believer in the Darnley and Prince of Wales type of horses, Mr Montgomery purchased his noted stallion Macgregor, sired by the former, from Mr Craig, Flashwood, Dalry, Ayrshire, in 1877 when a yearling, and since then has known little but success. Having purchased Netherhall estate, near to Castle-Douglas, and erected on it a beautiful mansion, by way of a house-warming he was presented with oil-painted portraits of himself and Mrs Montgomery, the late Mr Wellwood Maxwell of Munches presiding over a large and representative company, which included such noted agriculturists as Sir Mark J. Stewart, M.P., Sir Jacob Wilson, Mr

Pole Gell, and Mr Andrew Mitchell of Alloa. Mr William Montgomery, who joined his brother in 1885, bought the now famous Baron's Pride when rising four years from Mr John Findlay, of Springhill, Baillieston, Glasgow, he then being first in the aged and champion classes at the Highland and Agricultural Society's Show at Aberdeen. Messrs Montgomery have largely fixed the modern type of Clydesdale—*i.e.*, flat bones, well-set pasterns, and sound, ample hoofs. They also may largely claim to have elevated Clydesdale breeding generally to a platform erstwhile represented by the Shorthorn cattle world. Since their advent foreign and colonial business in British draught horses, betwixt quotations of shipping freights and rates of insurance, has attained an aspect hitherto associated with maritime commerce. Some of the consignments, such as that to Cape Town, South Africa, in which a special train to Liverpool docks had to be employed, were quite of international importance.

Our article having been outlined for reminiscences of the men of the past, there is small room for mention of the still surviving veterans, the head and front of whom is Mr David Riddell, Blackhall, who, as the Germans say, has stood the *sturm und drang* of close upon sixty years of it. There are a great many like Mr William Taylor, Park Mains; Mr William Renwick; Mr Brydon, Seaham, and others, who seem destined to keep the business going; but the majority of the very old school have fallen out.

Chronological Arrangement of the Leading Events in Scottish Horse-Breeding.

Periods		Notes upon Influences
	I. PRE-HISTORIC.	
	In his article on "The Multiple Origin of Horses and Ponies," Vol XVI. (Fifth Series), 'Highland and Agricultural Transactions,' Professor Cossar Ewart declares his opinion that the Norse ponies played an exceedingly active part in the formation of what is now known as the Highland *garron;* also that the Norse race had much to do with founding the type and character of the small active Clydesdales which made their reputations as farm horses a century and a half ago The yellow dun Norse horse of Ross-shire, he thinks, was particularly strong in this direction. There were, however, numerous introductions of Celtic and other blood, so that, so far as concerns modern horse-breeding in Scotland, conjectural details may here be left out.	Norse and Celtic blood the foundation of Highland ponies and Lowland horses — Galloways and Clydesdales.
	II. HISTORIC.	
1150-1200	Alexander the First introduces first Arab horse into Scotland. Spanish horses used at battle of Largs	Eastern blood affects the studs of Scottish Royalty and nobility.

CHRONOLOGICAL ARRANGEMENT—*continued.*

PERIODS.	II. HISTORIC—*continued.*	NOTES UPON INFLUENCES.
1214	William the Lion of Scotland enacts that every burgess and man of property must keep at least one horse.	...
	Establishment of racing for Silver Bells at Lanark .	Increased speed found desirable.
1284	All burgesses under local bye-laws compelled to keep a horse.	Compulsory keeping of horses by persons of means.
1314	Large numbers of heavy horses captured from the English at Bannockburn.	Heavy horses of the English army captured.
1340	Ambassadors from Scotland travel to England with 200 horsed attendants.	Influence upon horse-breeding as affected by large horsed parties travelling to and from Scotland and England.
1342	David Bruce travelled into England with 40 attendants, and his Queen with 60 attendants on horseback.	
1359	Thomas Murray, Lord Bothwell, granted leave to bring horses into Scotland from England for sale.	
1361	Earl of Mar granted passport to take into England a full-bred war-horse and two small-sized horses.	Influence of old war-horses in Scottish horse-breeding.
1368	The Earl of Mar travelled with 30 horsed attendants.	...
	William, Earl of Douglas, in Lanark with 10 large horses (*magnoes equoes*).	...
1369	David I. imposed by statute penalty of one-sixth value of every horse carried out of Scotland.	...
1373	Alexander Lesley travelled with 70 horsed attendants.	...
1424	James I. encourages trading in horses between England and Scotland, and allows horses three years old and upwards to be exported for use.	...
1535	James V. passes a law for raising the size of the native Scottish breeds.	Statute passed enjoining raising of size of Scottish breeds.
1567	Total prohibition by statute of export of horses from Scotland.	...
	James IV. sends his royal stud grooms into Spain; they bring back twelve choice horses and mares.	Intercourse in horse-breeding between France, Spain, and Scotland.
	Louis XII. of France sends James IV. in return a present of four amblers.	
	III. MODERN OR AGRICULTURAL PERIOD.	
1721, May 21	Sale by roup at Miln of Alva, Stirlingshire, of five bay stallions, one large black stallion, four large-sized black English mares with foals at foot, with several colts and fillies two and three years old, &c. (see page 221).	Early experimental improvements with black horses carried out near Stirling.
1733	Black horses introduced into Scotland by Patersons of Lochlyoch, Lanarkshire.	...
1757	Edinburgh Society's prize for best draught stallion awarded to William Duncan, stabler in Edinburgh.	...
1758	Edinburgh Society's prize awarded to Alex. Stewart for a bay draught stallion.	...
1759	William Whyte, Raws, Polmont, wins prize for a bay stallion, Red Robin.	...
1761	Robert Mason, Blythswood, Dunse, wins prize for best draught stallion with Plowman.	A famous Dunse-bred horse wins the stallion premium of Edinburgh Society three times running.
1762	Robert Mason, Blythswood, Dunse, wins prize for best draught stallion with Plowman.	
1763	Robert Mason (his son Alexander), Blythswood, Dunse, wins prize for best draught stallion with Plowman.	

CHRONOLOGICAL ARRANGEMENT—*continued.*

PERIODS.	III. MODERN OR AGRICULTURAL PERIOD—*continued.*	NOTES UPON INFLUENCES.
1779	Black horses introduced by the Duke of Buccleuch (see page 221).	The black horse wave spreads over Scotland.
1784	Highland and Agricultural Society founded.	
1785	A famous horse, Blaze, belonging to Mr Scott, Brownhill, Lanarkshire, wins a premium at Show held in Edinburgh Grassmarket.	...
1790	Black horses belonging to Bakewell of Dishley stationed at Linlithgow and Grassmarket, Edinburgh.	...
1793	Flanders horse, Vandernoot, introduced by Colonel Fullarton of Fullarton into Ayrshire (see page 228).	Ayrshire and the red bay Flanders influence.
1808	Shotts Hill Mill sale. The Lampits stud founded by purchase thereat of two-year-old filly.	...
1820	Sir Charles Lockhart sends two stallions from his Lee estates in Lanarkshire to his Largie estates in Kintyre to found the modern Kintyre breed.	Clydesdale horse influences Kintyre.
	Broomfield Champion (Frame's) foaled (1820 or about).	...
1823	Highland and Agricultural Society gives premiums for Clydesdales and Cleveland bay mares, to encourage horse-breeding in Perthshire.	...
1826	First Show of draught horses held by Highland and Agricultural Society at Glasgow; first prize won by Sovereign (811), Mr John Brown's, Kirkmuir.	Highland and Agricultural Society's first show of draught horses.
1833	Sir John Dalrymple Hay of Dunragit does much for the breeding of Clydesdales.	...
1837-38	Mr Anderson of Dunmore visits Lanarkshire and takes away two mares and a stallion to found the Victor and Lochfergus strains.	The Wigtownshire Clydesdale family formed.
1862	J. Nicol Fleming leases Kilkerran, Maybole, Ayrshire, and the Home Farm of Drumburle.	...
1865	Mr Stirling of Keir succeeds to baronetcy, and becomes Sir W. Stirling Maxwell.	...
1866	The famous Merryton sire Prince of Wales foaled at Drumburle, Maybole, Ayrshire.	Birth of the famous Clydesdale stallion Prince of Wales.
1866, Nov. 7	Dispersal sale of the late Duke of Hamilton's stud at Merryton. Mr Drew buys in best four-year-old mare for £220.	...
1869, Feb. 12	Samson (74), Logan's Twin, becomes Keir stud horse.	...
1871-78	The Glasgow Agricultural Society begins to increase its premiums and service fees from £40 and £1, 5s. per mare, to £150 in 1874, with £2 for service and £2 for foal, and to encourage horse-hiring clubs from all parts of Scotland to choose their horses at Glasgow.	Establishment and development of the Clydesdale Annual Stallion Show at Glasgow.
1875, May 20	Mr Drew's first Merryton sale	The sales period and the establishment of pedigree registration.
1877, Feb.	Meeting held at Glasgow under presidency of Lord Dunmore for the establishment of Clydesdale Horse Society.	
1877	Samuel Clark of Manswraes, a noted stallion owner and figure in Clydesdale horse history, died.	Notable sales and deaths of notable owners and breeders.
1877, April 10	Merryton sale. Netty sold into Keir stud for 596 gs.	
1878, Nov.	Sir William Stirling Maxwell, Baronet, founder and proprietor of Keir stud, first Vice-President Clydesdale Horse Society, died.	
1879	Dunmore Shorthorn and Clydesdale sale, Rosebud, dam of Moss Rose, sold for £190; Auchendennan sale following day, Damsel, Champion of the Highland and Agricultural Society, sold to go to Australia for 490 guineas.	...

Chronological Arrangement—*continued*.

Periods.	III. Modern or Agricultural Period—*continued*.	Notes upon Influences.
1879	Robert Brewster, owner of Pride of Scotland and other famous stallions, died.	
1879, Jan	His Majesty, King Edward VII., as Prince of Wales, visits the Merryton stud.	Royalty honours the Merryton stud.
1879, Nov.	At meeting at Chicago resolution passed to found an American Clydesdale Stud Book for United States and Canada.	
1880, Feb. 11	Sale of Mr Crowther's horses, Mirfield, Yorkshire. Messrs Johnstone, Lochburn, and Galbraith, Croy, Cunningham, bring back Topsman to Scotland at 300 gs.	
1880, Feb.	Sale of remainder of Lord Dunmore's stud. Flora M'Donald sold for 310 gs.	
1880, Dec.	Retrospective or first volume of Clydesdale Stud Book issued.	
1884, Mar. 8	Death of Lawrence Drew.	
1884, April 15	Dispersal sale of Auchendennan stud. Bride of Lammermoor sold for £320; Edith Plantagenet for £320.	
1884, April 17	Dispersal of Merryton stud. Mr Riddell purchases Prince of Wales (673) for 900 gs.	
1884, July	Darnley wins Highland and Agricultural Jubilee Championship.	
1887, Feb. 15	Duncan Macfarlane, Torr, Helensburgh, noted breeder and judge of Clydesdale horses, died.	
1888, Oct. 6	William Gray, Muncraig, Borgue, Kirkcudbrightshire, noted breeder and judge, died.	
1888, Dec. 31	Death of Prince of Wales (673).	
1891, Nov.	William Findlay, Brackenbrae, Clydesdale breeder and judge, died.	
1891, Dec. 19	Peter Crawford of Dumgoyack, Strathblane, noted as an owner of Clydesdale stallions, died.	
1896, April 24	Dispersal sale of Keir stud.	
1899, April	Oliphant Brown, Shiel, New Galloway, noted breeder and judge, died.	
1901	Lord Lionel Cecil, Orchardmains stud, died.	
1902	Alexander Young of Keir Mains, factor to Sir W. Stirling Maxwell, noted breeder and judge, died.	
1903	Death of Sir Michael Shaw Stewart, Baronet.	

THE CEREAL AND OTHER CROPS OF SCOTLAND FOR 1906, AND METEOROLOGY OF THE YEAR RELATIVE THERETO.

THE CROPS.

The following comparison of the cereal and other crops of 1906 with those of the previous year has been prepared by the Secretary of the Society from answers to queries sent to leading agriculturists in different parts of the country.

The queries issued by the Secretary were in the following terms:—

1. What was the quantity, per imperial acre, and quality of grain and straw, as compared with last year, of the following crops? The quantity of each crop to be stated in bushels. What quantity of seed is generally sown per acre?—(1) Wheat, (2) Barley, (3) Oats.
2. Did the harvest begin at the usual time, or did it begin before or after the usual time? and if so, how long?
3. What was the quantity, per imperial acre, and quality of the hay crop, as compared with last year, both as regards ryegrass and clover respectively? The quantity to be stated in tons and cwts.
4. Was the meadow-hay crop more or less productive than last year?
5. What was the yield of the potato crop, per imperial acre, as compared with last year? The quantity to be stated in tons and cwts. Was there any disease? and if so, to what extent, and when did it commence? Were any new varieties planted, and with what result?
6. What was the weight of the turnip crop, per imperial acre, and the quality, as compared with last year? The weight of the turnip crop to be stated in tons and cwts. How did the crop braird? Was more than one sowing required? and why?
7. Were the crops injured by insects? State the kinds of insects. Was the damage greater or less than usual?
8. Were the crops injured by weeds? State the kinds of weeds. Was the damage greater or less than usual?
9. Were the pastures during the season of average growth and quality with last year?
10. How did stock thrive on them?
11. Have cattle and sheep been free from disease?
12. What was the quality of the clip of wool, and was it over or under the average?

From the answers received, the following notes and statistics have been compiled:—

EDINBURGHSHIRE. *Wheat*—40 to 44 bushels; straw less than last year; 3½ bushels sown. *Barley*—40 to 44 bushels; quality very good; straw about the same as last year; 3 bushels seed sown. *Oats*—44 to 48 bushels; quality very good; straw fully more than last year; 4 bushels seed sown. *Harvest* three weeks later than last year. *Hay* fully heavier than last year; about 2 tons 10 cwt. to 3 tons per acre, and sold about the same price as last year; heavy second crop, and both well got.

Meadow-hay—Fair crop, but much spoiled with wet weather. *Potatoes*—Light crop; about 6 tons per acre, and a good deal of disease, especially since they were pitted; selling 15s. to 20s. per ton more than last year. *Turnips*—About the same as last year; yellows and swedes about 25 tons per acre. *Mangold*—A good crop; about 30 tons. *Live Stock*—Pastures very good, fully better than last year; both cattle and sheep throve well, and free from disease. *Clip of wool*—Good.

LINLITHGOWSHIRE. *Wheat*—Seed sown, about 4 bushels per acre; yield per acre about 44 bushels, and 2 tons straw. *Barley*—Seed sown, about 4 bushels; yield per acre, about 36 bushels; straw same as last year. *Oats*—Seed sown, about 4 bushels; yield per acre, 48 bushels; straw if anything less than last year. *Harvest* began about the usual time. *Hay*—The quantity would be about 45 cwt. per acre; quality good. *Potatoes*—Yield less than last year; this year about 7 tons; very little disease. *Turnips*—Crop better than last year; 25 to 30 tons swedes, yellows 25 tons; brairded well, and no second sowing. *Live Stock*—Stock did well. *Clip of wool*—Good.

HADDINGTONSHIRE (Upper District). *Barley*—30 bushels; quality of grain and straw not so good as last year; 3 bushels sown. *Oats*—36 to 38 bushels; straw short but of good quality; 4 bushels sown. *Harvest* a little later than last year. *Hay*—2 tons, of good quality. *Meadow-hay* more productive than last year. *Potatoes*—5½ tons; no disease; no new varieties planted. *Turnips*—15 to 18 tons; quality not so good as last year; crop brairded well; no resowing. *Live Stock*—Pastures above the average; stock throve very well. *Clip of wool*—Average clip.

HADDINGTONSHIRE (Lower District). *Wheat*—36 to 44 bushels; good quality; a good bulk of straw, more than average, but yielded disappointingly; seed sown, 3½ to 4 bushels broadcast; 2½ to 3 bushels drilled. *Barley*—30 to 42 bushels; quality under average; bulk of straw nearly average, but crop threshed out wretchedly. The yield per acre of all grain crops is bad, and barley exceptionally so, constituting perhaps a record unprofitable barley crop; low prices per quarter along with the small yield. The excessive rainfall during May, followed by drought later, caused the land to run together and harden, and then the want of sun and continuous rain in August acted prejudicially. Seed sown, 2½ to 3 bushels drilled. *Oats*—36 to 44 bushels; quality good; light bulk of straw; seed sown, 4 to 5 bushels broadcast; 3 to 3½ bushels drilled. *Harvest* began about 20th August, being about average time. There was some wet weather in the first week, after that weather dry, with an absence of winds during the stacking period. *Hay*—A very fine crop, above average; 2½ to 3½ tons; fine quality and well secured. No *meadow-hay* grown. *Potatoes*—"Up-to-Dates" (or kindred varieties), which is now the principal variety grown, 7 to 9 tons; "Langworthys" 5 to 7 tons; yield less than last year by about 2 tons per acre; disease in some districts bad; the blight struck the crop about 10th October; fields which had ripened by then escaped, but those which were green and growing on and increasing in weight then have about one-third diseased in "Date" varieties. Few of the new and boomed varieties grown, they not having fulfilled expectations. *Turnips*—16 to 26 tons; quality good, but not standing much eating; the exceptionally heavy rainfall in the third week of May hurt land very considerably. All the earliest sown turnips fared best; some second sowing required with those made just before the rain. Crops not damaged by insects, except "the fly" on some fields of turnips, but nothing more than usual. Crops not hurt much by weeds, except charlock in a few fields. *Live Stock*—Pastures very good, considerably better than average, and stock did extra well on the grass. A good grazing year, and stock did extra well. *Clip of wool*—Fair average, with good prices.

BERWICKSHIRE (Merse). *Wheat*—40 bushels; a fair crop of both straw and grain, but rather below last year; quality fair; only grown on favourable situations; seeding, 3½ to 4 bushels. *Barley*—33 bushels; poor crop; straw short and weak; damaged grain very general; considerable areas choked by excessive growth of clover; seeding, 3 bushels. *Oats*—39 bushels; both grain and straw in excess of last year's average; quality much inferior to last year in many places; seeding, 4 to 4½ bushels. *Harvest* about ten days later than last year; not general till middle of August; weather very bad for first fortnight; fine weather all September, but little wind. *Hay*—41 tons; fine quality; generally luxuriant crop and well secured; clover very abundant, except where there had been a failure or partial failure of seeding in 1905; aftermath fair. *Meadow-hay*—A good and luxuriant crop, but much damaged by August rains. *Potatoes*—Very poor; 3 to 5 tons below last year; average crop; about 5½ tons; little disease till August; after that, more prevalent; "Factors," "Table-talk," and "Dalhousies" among new varieties. *Turnips*—Swedes brairded well; very little sowing twice; three weeks' rain in May divided the crop into two sections; the early crop has turned out good, and up to 25 or more tons per acre; the later sown crop is small and inferior, not more than 15 to 17 tons. *Live Stock*—Rotation pastures were good in May, June, August, and September; bare in July; stock generally did well. *Clip of wool*—Under average by about ½ lb. per fleece.

BERWICKSHIRE (Lammermoor). *Wheat*—Almost none grown. *Barley*—30½ bushels; straw and grain both inferior, and choking by excessive growth of clover very general; seeding, 3 bushels. *Oats*—33 bushels; crop generally only fair, though better than last year; quality not up to average; seeding, 4 to 5 bushels. *Harvest* not general till last week of August; September, weather dry and fairly satisfactory. *Hay*—35½ tons; crop good and well grown, and secured in good condition; aftermath fair. *Meadow-hay*—Good crop, but only secured in middling condition owing to the deluges of rain in August. *Potatoes*—Crop not much more than half of that of last year; probably about 4½ to 5 tons; little disease; tubers an average size; many lifted in wet weather. *Turnips*—Crop generally brairded well, and those sown before the May rains are a full crop; those sown later are only a moderate crop; average, say, 19 tons. *Live Stock*—All pastures were good and luxuriant in autumn; stock, both cattle and sheep, grazed well. *Clip of wool*—Under average of about ½ lb. per fleece.

ROXBURGHSHIRE. *Wheat*—Little grown, but what there is grown is a very bulky crop; straw very good, and grain fine quality; it was a favourable autumn for sowing, so the young plant got a good start before the winter weather came on; seed about 3½ bushels. *Barley*—From 20 to 36 bushels; grain of poor quality, being badly ripened, having had a very damp wet June; straw is plentiful, but also poor in quality; seed about 3 bushels. *Oats*—About 40 bushels; grain good and fine quality; straw will be above the average in quantity and quality; seed, from 5 to 6 bushels. *Harvest* a little later than last year on most farms; grain was cut and stacked in fine order, but most farmers had few if any stacks covered when the rain came on, and there has been a great loss by stacks getting wet; in some cases the loss is very great. *Hay*—A large crop and fine quality; a good deal of late hay suffered from the rain. *Meadow-hay*

—A large crop, but a good deal of it spoilt by rain. *Potatoes*—This is perhaps the worst crop that has been for years; most places not half a crop, but luckily potatoes are not much grown for sale in this county. *Turnips*—Crop very variable; those got in before June are a big crop, but rain came on, June being very wet; a great many were put in where the land was in bad order, hence there is a great deal of bad roots, and some very poor crops. *Live Stock*—Pastures excellent growth and quality; stock did very well. *Clip of wool*—Quality very good, and wool weighed very well.

SELKIRKSHIRE. *Barley*—Only a fair crop; about 32 bushels; seed sown, 3½ bushels. *Oats*—Moderate crop, suffered from cold wet May; 30 bushels; both straw and grain good quality; seed sown, 5 bushels. *Harvest* a week later than usual; weather fine but very slow. *Hay*—35 cwt.; quality good; better than last year. *Meadow-hay*—Generally a good crop, but suffered from weather in later districts; about 20 per cent more than last year. *Potatoes*—Average crop; very little disease. *Turnips*—Swedes a good crop; about 20 tons an acre; yellows not half the crop they were last year; a little resowing owing to the bad condition of the land, much of it being wrought under very unfavourable circumstances. Portions of oats injured by grub, and there was a little turnip fly also. No more than the usual injury by weeds, only thistles seemed to be very much increased of late years. *Live Stock*—Pastures were very good, and grass everywhere abundant; stock throve generally very well indeed. *Clip of wool*—Quality good; only average quantity; about 7½ per cent less than last year.

PEEBLESSHIRE. *Barley*—36 bushels, and 35 cwt. straw; about 4 bushels less than last year, and 5 cwt. straw less; 4 bushels sown. *Oats*—32 bushels, and 35 cwt. straw; deficiency same as barley; 5 bushels sown on rough lea, 4¼ to 4½ generally. *Harvest* began usual time, but good; harvest shorter by a week than usual. *Hay*—Timothy 2½ tons; clover 1 ton 16 cwt.; very similar to last year. *Meadow-hay*—Full average crop. *Potatoes*—Crop about 6 tons, or 2 tons less than last year; no disease; very few, if any, new varieties planted. *Turnips*—Swedes 12 tons, or 3 tons less than last year; yellows 10 tons, and in many cases much less; about 5 tons short of an average; first sown turnips brairded partially, and a good deal resown; wet weather in May caked the soil, and they could not braird. A few fly on early braird, but nothing more than usual. *Live Stock*—Pastures full average; stock throve very well. *Clip of wool*—Wool clip good quality; parks a full average; hill sheep under an average.

DUMFRIESSHIRE (Annandale). *Barley*—Weight of grain will equal last year's crop (35 bushels); owing to bright favourable harvest weather, quality was excellent, and the bulk would go for malting purposes; straw under last yield, 19 cwt.; seed sown, 3½ bushels. *Oats*—Yield of oats (grain) under last year; contrary to expectation, after good harvest, the crop is threshing badly; from careful inquiry the yield will not exceed 35 bushels; weight of straw would equal last year's; quality of grain, owing to favourable harvest, is better than last year; seed sown, 3½ to 4 bushels drilled; 5 to 6 bushels sown broadcast. *Harvest* began about usual time, beginning of September. *Hay*—Ryegrass hay will correspond with last year's crop both as regards quantity and quality—about 29 cwt. per acre; clover was again almost a failure; causes are increase of wood-pigeons, and probably also the more general use of nitrogenous manures and dung as top-dressing in spring. Farmers say there was no scarcity of clover plants in the autumn, but when crop matured clover had almost entirely disappeared. *Meadow-hay*—Slightly under last year; 30 cwt. per acre. *Potatoes*—Yield of potatoes rather under last year's crop as regards weight, and very much as regards quality; this year there is a scarcity of good-sized marketable tubers. The crop was very promising in the beginning of the season, but disease made its appearance early in August, which was a very wet month; weight per acre, 5½ tons; no new varieties grown. *Turnips*—Weight of turnip crop 18 tons per acre; crop brairded well, but heavy lands were caked and covered by an unusually wet May, and on this class of soils the roots were deficient; no resowing was required. *Live Stock*—Pastures were of more than average growth and quality; stock of all kinds throve well during the season. Cattle have been free from disease, but foot-rot has been very troublesome amongst sheep, said to have been caused by long grass on pastures. *Clip of wool*—Equal to last year; an average yield.

DUMFRIESSHIRE (Nithsdale). *Oats*—40 bushels; straw 15 cwt.; quantity not so large as last year, owing to red-land crops being short in straw; the harvest-time being in some districts very wet, the colour and quality is inferior of grain; 5 to 6 bushels sown. *Harvest* began about the usual time. *Hay*—Ryegrass hay is principally grown in the county, and would average about 2 tons per acre, being 5 cwt. more than the previous year; quality good. *Meadow-hay*—More productive, the rainy summer suiting its growth, and with the month of August being so wet much of it got remaining uncut longer than usual. *Potatoes*—The quantity was about 2 tons per acre less than last year—5 tons this year, 7 tons last; disease did not prevail to any extent in the county. *Turnips*—This crop would be 5 tons per acre less than last year—15 tons this year, 20 tons year before; quality not so good, as they had too many checks during their growth; early sown brairded well later; some had to be sown twice, and were unsatisfactory after that. With the wet season weeds came very strongly, principally redshank and spiny. *Clip of wool*—After the stormy winter and cold spring hill sheep were very lean, which injured the quality of wool, and made the clip under an average in weight.

DUMFRIESSHIRE (Eskdale). *Oats*—Seed-time was splendid, and rarely such a fine seed-bed is obtained; about 5 imperial bushels sown; after brairding very well it got stopped by drought in end of May and beginning of June, but after rain it came away again, and turned out a good crop; straw was about an average in bulk, and of first-rate quality, being very well got; quantity about 40 imperial bushels per acre, and of first-rate quality. *Harvest* began almost exactly the same time as last year. *Hay*—About the same as last year—viz., about 30 cwt. per acre, and exceptionally well got, very little getting any rain at all; more clover than last year. Aftermaths came away fairly well, but but did not stand much eating. *Meadow-hay* was a heavier crop than last year, perhaps because of being late in being cut, as just when meadows were being started the weather broke, and nothing could be done at hay for nearly six weeks; a lot of hay was entirely wasted, but those who stopped cutting when the weather broke got splendid weather to finish with. *Potatoes*—Fairly good quality, but an awful lot of small ones among them; quantity about 5 tons; there was not very much disease, which surprised most farmers, as the shaws died down very early; no new varieties planted. *Turnips* which were sown early made a splendid crop, but most were not sown till late, and did not come away well, and will only yield about 20 tons, as they are mostly very small, with very few exceptions; a lot had to be sown over, caused by the drought. A lot of turnips were injured by the fly which the drought generally causes. Not many weeds, excepting charlock, which was much the same as last year. *Live Stock*—Pastures rather over an average; growth and quality a long way better, as most pastures were covered with white clover; stock throve very well; not much disease, the worst being braxy amongst hill hoggs, which has been mostly stopped by the "pig dung" dose which is used by almost every hill farmer. *Clip of wool*—Wool would be below the average, both quality and quantity.

KIRKCUDBRIGHTSHIRE. *Wheat*—A growing crop of great promise, well planted, tall straw, and apparently well eared, but on threshing yield is most disappointing, being only 4 quarters (32 bushels); straw, 35 cwt.; 4 bushels sown. *Oats*—Straw under last year's weight; grain good, but yield somewhat under last year; about 45 bushels; 5 bushels sown. *Harvest* began about usual time—third week in August—and was quick, fine weather prevailing throughout. *Hay*—Much heavier crop than last year; abounding in clover; weight, 1 ton 15 cwt. *Meadow-hay*—Weight about same as last year, but great loss in making, very bad weather being experienced at end of July and beginning of August. *Potatoes*—Early potato crops were very heavy, probably a record in any one's experience, reaching as high as 12, 14, and even to 17 tons per acre. Disease set in early in August, and affected any earlies still growing to about 25 per cent of the crop; late varieties an exceedingly small crop. Disease stripped the leaves in August, and stopped growth, but fine weather supervening there was almost no blight on tubers, which were stored in excellent order, and have kept well; yield about 5½ tons per acre; new varieties eschewed. *Turnips*—Weight of crop is 25 per cent under last year; weight, 15 tons; crop brairded indifferently, but not much resowing resorted to. Not a weedy year, except charlock, which was again strong in evidence. *Live Stock*—Pastures much better than last year; clover abundant; stock throve exceedingly well. *Clip of wool*—Considerably under last year.

WIGTOWNSHIRE. *Wheat*—32 bushels; quality good; straw, 22 cwt.; seed, 2½ to 3½ bushels. *Barley*—36 bushels; grain dark in colour; straw light, 16 cwt.; seed sown, 3½ to 4 bushels. *Oats*—42 bushels; good quality; good straw, 21 cwt.; seed sown, 5 bushels. *Harvest* about ten days later than usual. *Hay*—Ryegrass hay a good crop; 38 cwt., but weighing badly in bulk. *Meadow-hay*—Considerably more than last year, but not so well got. *Potatoes*—7½ tons, but keeping badly. *Turnips*—17 tons per acre; more disease than last year; not much resowing required. *Live Stock*—Pastures much more than of average growth and quality; stock throve fairly well; several cases of anthrax have occurred; otherwise fairly free from disease. *Clip of wool*—Rather under average quantity; quality good.

AYRSHIRE. *Wheat*—43 bushels; grain and straw, average; wheat is not extensively grown: seed, 3 bushels drilled. *Barley*—37 bushels; under average, and medium quality of both grain and straw; seed, 3 bushels drilled. *Oats*—46½ bushels; average grain and straw; seed from 3½ to 6 bushels; varying on account of land, variety sown, and locality. *Harvest* ten days later than usual time. *Hay*—1 ton 16 cwt. 2 qrs.; quality very variable, but generally well got. *Meadow-hay*—Average crop, but mostly of inferior quality on account of bad weather at harvest. *Potatoes*—9 tons; very heavy crop in early districts, 16 tons per acre being got in more than one field; little disease; some new varieties were tested, but none to beat kinds formerly grown. *Turnips*—22 tons; little resowing required; quality fair, but some plots badly diseased with finger-and-toe. *Live Stock*—Stock throve fairly well. *Clip of wool*—Average in quantity and quality.

Bute. *Barley*—3½ bushels sown; well got; average for straw and grain; yield, 37 bushels. *Oats*—5 bushels sown; fairly well got; the ground was very wet when harvest began; on all green crop-land the stooks had to be shifted. *Harvest* began last week in August; after usual time about two weeks. *Hay* was a good crop, and well got, and would average 2 tons per acre. *Meadow-hay*—A good crop, but very badly got; not much grown in Bute. *Potatoes*—The early potatoes, where boxed, about 7 tons per acre; later kinds, 5 tons per acre; no disease; digging early potatoes began 23rd June. *Turnips*—An average crop; brairded well; swedes 25 tons per acre, and yellows 20 tons per acre; very little finger-and-toe or any other disease. *Live Stock*—Stock did fairly well. *Clip of wool*—Good quality and fair average.

Arran. *Barley*—A moderate crop; about 28 bushels; quality fair, weighing 54 lb. *Oats*—Not so evenly a crop as last year; lea good average; sown-out land very poor, say 28 bushels per acre; seed sown, 6 bushels; harvest eight days later than 1905. *Harvest* began about the average time, taking, say, five years. *Hay*—About 1 ton 3 cwt.; quality good where early cut; late cutting badly damaged with weather; seed dark in colour and less weight per bushel. *Meadow-hay*—More productive, but quality not so good. *Potatoes*—Crop yielded badly; small in size, and a good deal of disease; say not more than 3 tons per acre marketable. *Turnips*—Very variable; dry land a fair crop; damp soils very poor, with a good deal of finger-and-toe; say average 8 tons per acre; more weeds, owing to wet season. *Live Stock*—A big flow of grass; quality not so good as previous year; stock throve fairly well; very free from disease, with the exception of foot-rot in sheep on damp low lands. *Clip of wool*—Quality fair; about the average in quantity.

Lanarkshire (Upper Ward). *Oats*—30 to 35 bushels; similar in quantity, but hardly the quality of last year; seed sown, 5 to 6 bushels. *Harvest* began about the usual time, in the first and second weeks of September, and was early finished, owing to favourable weather. *Hay*—A fair crop, averaging 2 tons; similar to preceding year; little aftermath. *Meadow-hay*—A good crop, but not so well got as last year; quantity similar. *Potatoes*—A very moderate crop, averaging probably less than 6 tons, and at least 2 tons per acre less than last year. A good deal of disease, commencing in August, particularly in early varieties. "Suttons," "Up-to-Dates," and "British Queens" are the principal varieties; but "Factors" are being more extensively planted, with good results. *Turnips*—20 to 25 tons; considerably less than last year; quality good; little or no resowing; crop brairded well. *Live Stock*—Pastures late in coming, owing to cold weather in May; of average quantity, but deficient in quality; stock throve well. *Clip of wool*—Quantity and quality average; prices improved.

Lanarkshire (Middle Ward). *Wheat*—During the autumn of 1905 a large area of wheat was sown; the crop, however, has given a very poor yield per acre and per bulk in the stack, and the quality is inferior, largely owing to want of sunshine during the later months; from 20 to 40 bushels; straw, 25 to 35 cwt.; seed sown, 3½ to 4 bushels. *Oats* have been a medium crop, and the quality of the grain much inferior to season 1905; 28 to 50 bushels; straw, 30 cwt.; seed sown, 4½ to 5 bushels. *Harvest* commenced about the beginning of September, but the weather conditions were unfavourable generally, and in the later districts much damage to grain and straw was suffered. *Hay*—Ryegrass and clover-hay were very large crops; from 1½ to 2½ tons per acre.

In the earlier districts the crop was well got, but in the later districts much hay was spoiled through continuous wet weather. The crop was selling from the fields for delivery at from £2, 15s. to £3, 5s. per ton. *Meadow-hay*—Meadow and timothy hay gave a yield of from 1½ to 3 tons per acre. *Potatoes*—The season was not favourable for the growth of potatoes, and the average yield would be from 5 to 9 tons per acre. There has been little disease, but the price is a little higher than last year. A few new varieties have been planted, with promise of a fair return. *Turnips* have been a fair crop; yield from 15 to 25 tons. The earlier seeds gave the best results; but no second sowing was required. *Weeds*—Much difficulty was experienced in harvesting the oat crop, owing to the rank growth of clover and the sown-out grasses. The potato and turnip crops were also very difficult to keep clean of the annual and root weeds, owing to the moist season. *Live Stock*—Season 1906 will long be remembered as being the most favourable for pasture for many years; but this applies principally to midsummer and autumn. With the exception of the month of May, stock did well on the pasture. Cattle have been free from disease.

LANARKSHIRE (Lower Ward). *Wheat* was a fairly bulky crop; but the grain very deficient and of poor quality; from 30 to 40 bushels per acre; and 4 bushels seed sown per acre. *Oats*—A fair good crop for bulk, but not threshing well; 35 bushels as an average, and 5 bushels for seed. *Harvest* began about the end of August; a week later than the usual time. *Hay*—Ryegrass a good crop; ryegrass, 2 tons; timothy, 3½ tons. *Potatoes*—Not bulking this year; 6 or 7 tons; a little disease; few new kinds planted. *Turnips*—A fair crop; 20 to 25 tons per acre. *Live Stock*—Pastures an average growth; stock throve fairly well.

RENFREWSHIRE. *Wheat*—50 bushels; quality quite as good as last year; 4 bushels seed sown. *Oats*—56 bushels; quality of both grain and straw hardly as good as last season. *Harvest* a few days earlier than usual. *Hay*—Average, 2 tons; quality not quite so good as last year. *Potatoes*—Crop not so heavy as last year by, average, 1 ton—making average crop, say, 8 tons; no disease; no new varieties from last year. *Turnips*—Average crop, 23 tons; rather heavier than last year; brairded slowly; heard of none resowing. *Live Stock*—Pastures better both in growth and quality than last season; stock throve better than last season. *Clip of Wool*—Quality good; average as usual.

ARGYLLSHIRE (Lochgilphead). *Oats*—Lea oats better than last year; red land not so heavy in many cases; from 5 to 6 bolls per acre threshed; about 5 bushels sown; straw and grain of good quality. *Harvest* began about usual time; perhaps a few days earlier. *Hay*—Ryegrass not so bulky as last year, but of good quality; about 35 cwt. per acre; no clover-hay grown. *Meadow-hay* not so bulky on this farm, but usually rather heavier than last year. *Potatoes*—About last year's crop; say 6 tons; as a rule were a very poor crop; a little disease among "Abundance"; no new varieties planted. *Turnip* crop not nearly so bulky as last year, but quality average; say about 23 tons; brairded all right; no second sowing. Turnips very difficult to clean, owing to continued wet; redshank most prevalent weed. *Live Stock* — Pastures quite average growth; stock throve extra well, unless feeders, as grass was rather soft. *Clip of wool*—The quality of clip was very good, and rather over the average.

ARGYLLSHIRE (Islay, Jura, and Colonsay). *Oats*—A fair average crop, both regarding grain and straw; 5 to 6 bushels when sown by hand;

not more than 4 when drilled in. *Harvest* was about a week later than last year of starting, but, owing to fine dry weather, it was finished earlier than usual. *Hay*—There was a fair average hay crop as regards quantity; and what was cut early and secured without getting rain was of superior quality. On the whole, the quality was above the average, although what was late of being cut suffered considerably from wet weather. *Meadow-hay*—Much the same as last year. *Potatoes*—The potato crop would yield about ⅓ less than last year of good tubers; disease was worse than usual; commenced in August. *Turnips*—Much the same as last year. In very few cases was a second sowing required; but what was sown early did best. There was the usual crop of weeds; and the damp weather in July and August made it very difficult to eradicate them from among the green crops. Weeds got the upper hand in some fields of turnips and potatoes. *Live Stock*—Stock throve well. *Clip of wool*—Rather above the average.

DUMBARTONSHIRE. *Wheat*—From 32 to 35 bushels; quality not so good as last year; straw fair in quantity and quality; seed sown, from 3 to 4 bushels. *Oats*—Quality of grain and straw fair; not quite so good as last year; quantity about 48 bushels on the best land to 27 bushels in the Highland district of the county; seed sown, 4 to 5 bushels. *Harvest* was, in most districts, from the usual time to a week later. *Hay*—From 1½ ton to 2 tons; quality very fair. *Meadow-hay*—A better crop than last year, but spoiled by rain in August. *Potatoes*—Report from Cardross parish is—"Early crop very large, from 10 to 14 tons; late crop from 5 to 7 tons; not much disease; no new variety." Report from Old Kilpatrick parish is—"Deficient from 2 to 3 tons from last year; about one-third 'British Queens' showed disease the end of July and beginning of August; yield about 7 tons." *Turnips*—A fair average crop, from 16 to 30 tons per acre; brairded well; a very little resowing, owing to fly. In a few isolated cases the crop was spoiled by finger-and-toe; very little damage by insects. Where finger-and-toe existed a great many plants were pulled up by rooks. Some early potatoes not lifted early got bad with annual weeds. A good deal of yare in oats after green crop. *Live Stock*—Pastures in some districts very good; in others deficient in quality, owing to so much rain. Stock did well in most districts. Cattle and sheep very free of disease. *Clip of wool*—Wool considerably under average on the hill farms; about an average on low ground.

STIRLINGSHIRE (Western District). *Oats*—38 bushels; grain and straw poor on lea; red-land straw much shorter and thinner than last year. Bad weather occasioned delay, and told severely against crop being stacked in favourable order. *Harvest* began 1st September, being about ten days later than last year. *Hay*—About 1 ton 12 cwt.; good crop, with rather more clover than last year; not well secured in most cases, owing to unfavourable weather. *Meadow-hay*—An average crop, but badly got under disappointing conditions. *Potatoes*—About 4 tons, or an average of 2½ tons per acre less than last year. Potatoes did not fill for want of sunshine, and quality inferior generally; a little disease set in end of September; no new varieties. *Turnips*—About 20 tons; quality similar to last year; only one sowing; some injury from redshank, and, although not extensive, it was greater than last year. *Live Stock*—Pastures about average. Stock throve very well. *Clip of wool*—Good; over average.

STIRLINGSHIRE (Eastern District). *Wheat*—3½ bushels seed; fair bulky crop of straw, but grain did not thresh well; 42 bushels yield poor straw. *Barley*—3 bushels seed produce 26 bushels—most yield per acre that I have experienced; grain and straw much below par. *Oats*—5 bushels seed produce from 24 to 40 bushels; useless crop of straw and grain. *Harvest* began usual time. *Hay*—Good bulky crop, but did not turn out well; 2 tons yield. *Meadow-hay*—Good crop spoiled by bad weather. *Potatoes*—5 tons per acre; very free of disease; no new kinds grown. *Turnips*—Middling quality; 18 tons per acre; no second sowing. *Live Stock*—Plenty of grass, but poor feeding quality. Stock did not thrive well; cold summer. *Clip of wool*—About an average.

CLACKMANNANSHIRE. *Wheat*—The yield of wheat would be from 34 to 38 bushels; straw, a fair average. There are numerous complaints that wheat is not threshing well, and the quality not quite so good as last year; 3½ to 4 bushels sown. *Barley*—This crop was damaged with wet weather in harvest; the yield is scarcely up to the average; the straw as well as the grain was damaged with rain; it is not so good a crop all over as last year; yield about 30 bushels; seed sown, 4 bushels. *Oats*—Crop varied a good deal, but most of it was considerably under the average; yield, from 28 to 35 bushels; straw soft and of poor quality; it does not seem to have the same nutriment in it as usual. The crop as a whole suffered from want of sunshine to ripen it. Seed sown, from 4 to 5 bushels. *Harvest* commenced ten days later than last year, and was a bad harvest throughout; although there was not much rain there was a great want of drying weather, and harvest dragged on to an unusual length. *Hay*—A fair average crop, but not well secured; owing to wet weather the crop lay out in some instances until it was quite black. The average yield would be about 2 tons. *Meadow-hay*—A short crop, and greatly damaged by rain. It was scarcely possible to get it secured in anything like good order. *Potatoes*—The potato crop is under the average, and not so good in quality as last year; there is also more disease than last year; yield, from 4 to 6 tons. The want of sunshine in the middle of summer was against the potato crop; it left them soft, and they are not keeping well in the pits; even where they were turned over in the pits they are still going bad. New varieties not so much planted as they were. *Turnips*—This crop is in general under the average, although it varies a good deal on different soils. It was after the 1st of August that the bulbs began to swell to any appreciable extent; the bulk is not so good as last year; average yield, from 14 to 18 tons. The crop brairded well, little or no second sowing required. Weeds were more troublesome than last year; owing to wet weather the horse-work on the green-crop break could not be carried on to keep down weeds in the usual way. *Live Stock*—Pastures were fairly good, and afforded a good bite for stock all the season, but, owing to excessive moisture, part of the time the grass was soft. Stock did a little better on the grass than last year. *Clip of wool*—There was a good clip of wool, of average quality, and still commanding good prices.

FIFESHIRE (Middle and Eastern). *Wheat.*—A fair average crop, and in some districts as good as last year; yield will be from 40 to 44 bushels; quality of grain good, and straw good length; natural weight 62 to 63 lb.; straw, 2 tons; seed sown broadcast, 4 bushels; with drill machine, 3 bushels. *Barley*—This is a disappointing crop, the cold weather in May having acted much against it; the yield will vary considerably; about 32 bushels will be an average crop; straw, 1 ton, natural weight, 54 to 55 lb.; seed sown broadcast, 3 bushels; with drill machine, 2 bushels. *Oats*—Medium crop, short in the straw, and somewhat thin on the ground; quality and colour of grain good; return, per acre, 40 to 48 bushels; natural weight, 42 to 43 lb.; weight of straw, 1 ton; seed sown broadcast, 4 to 4½ bushels. *Harvest* was nearly general by the beginning of September, and was favoured generally with good weather. *Hay*—Very fair crop, and secured in good order; quality similar to last year; average return, 1½ to 2 tons per acre. *Potatoes*—A good crop on the best class of land, but under an average on secondary soils; the newer varieties of potatoes, such as "Factor," "Mayfield Blossom," and "Up-to-Date," comparatively free from disease, yielding 6 to 12 tons; fine sample and excellent quality. "Langworthy" again holds the lead for quality, but they are small sample, and crop about 5 tons; spraying was attended with very satisfactory results, both improving crop and quality. *Turnips*—This crop at the beginning of the season presented a very varied appearance; the early sown swedes turning out heavy crops; those later sown, and after the wet weeks in May, looked disappointing for a long time, but improved considerably in September and October months; average crop of 20 tons swedes, and 15 tons yellows; the crop brairded very irregularly, and some second sowing was required. Charlock prevalent amongst the grain crops in some districts. *Live Stock*—All pastures generally did fairly well, and where not overstocked with cattle and sheep, supplied good grazing; cattle and sheep free from disease. *Clip of wool*—Very good quality, and over an average.

FIFESHIRE (Western). *Wheat*—On the best lands, 36 bushels of grain and 2 tons of straw; and on the second-class soils, 32 bushels and 1 to 1½ ton of straw; 4 to 5 bushels seed sown, according to locality and condition of the land; grain generally inferior and lacking quality; the wet season and lack of sunshine all told against this crop. *Barley*—On the very best barley soils the return in grain will not exceed 40 bushels, and about 1½ ton straw; whilst on the secondary lands the return is much less and most disappointing, the quality of grain very inferior, and selling at very poor prices. The excessive rains in May killed the barley crop, and it never got over it; about 3 to 4 bushels of seed sown, if by the hand, and less if by machine. *Oats* are likewise a disappointing crop, and yielding badly per acre; and when milled the return is short of expectations; they likewise got sound and set-up during May; the yield will run from 32 to 40 bushels per acre, according to quality of land and climate; the straw, however, is fair quality; a fine early seed-bed, followed by a wet, cold summer, entirely spoilt what at one time promised to be a fine grain crop. *Harvest*—The great heat-wave in the end of August brought on the crops rapidly, and harvest began in consequence sooner than at one time was looked for, starting from the 1st to the 7th September. *Hay*—This crop was unusually bulky, especially in clover, but it is not weighing well; it likewise suffered from excessive rain and lack of sunshine; the tonnage will run from 3 tons to as low as 1½ ton per acre. *Meadow-hay* was likewise bulky, but lacked quality. *Potatoes*—The potato crop is generally a light one, and tons an acre short of the last two years; there was a good deal of disease at lifting time, and this has spread much in the pits since, especially amongst the softer varieties, and no wonder, as all potatoes were pitted in a very wet state. The new varieties are legion, at least so far as names go,—fewer would be a blessing. *Turnips*—Turnips are generally a poor crop, and considerably below average, with a good deal of finger-and-toe; they were late of being sown, as the land was quite unfit for cultivation during the greater part of May, the very season at which they should have been sown. The season was too wet even for runches and skellocks to grow. *Live Stock*—There has been a great wealth of grass everywhere, and stock seemed to do well on it. *Clip of wool*—Quality fair, but quantity under former seasons.

PERTHSHIRE (Western District). *Wheat*—Fully an average crop, with a yield of about 34 bushels; straw well grown and of good quality; 3 to 3½ bushels of seed. This crop was well secured before the weather broke. *Barley*—A full average crop, with grain and straw of good quality where crop was secured before broken weather set in. The average yield would be quite 30 bushels; seed sown, 3½ bushels; a rather greater area would be sown than in 1905. *Oats*—An average crop in general, with a yield of 38 to 40 bushels on the stronger land, and 30 to 32 bushels on the higher and poorer land; seed sown, 4 to 4½ bushels; straw of good quality where the crop was secured early. *Harvest* would be generally a week later than in 1905; and while some of the earlier farms did not suffer much, the greater bulk of the crop in the district was secured in bad condition, the weather having become very wet just about the end of the cutting of the crops; on one or two farms stooks and small huts could be seen in the fields so late as November. *Hay*—The hay crop would be barely an average in bulk, though on many farms it might exceed the average; the crop was well got; timothy is extensively grown on the carse land of this district, and the crop would be fully an average in bulk, but on many farms it was not well got, as the weather was very unsettled at the time of making,—weight of hay crop on carse land, 30 cwt., and on dry-field farms, 20 cwt.; timothy hay would yield 36 to 40 cwt. *Meadow-hay* was about the average, but on account of the unsettled weather at the time of making, the crop was in most cases badly got. *Potatoes*—Much under the average; 5 tons would more than represent the average crop of the district—a district which does not grow the heaviest class of crop; usual amount of disease. New varieties are being given up, and most farmers are pinning their faith on such old and tried varieties as "British Queens," "Up-to-Dates," "Maincrops," &c. *Turnips*—The turnip crop was less bulky than in the previous year; the braird on many farms was unsatisfactory, but there was not much second sowing. The weight would not exceed 14 to 18 tons, according to locality, at time of sowing; and during the early part of the season the weather was too wet to ensure a good crop of turnips. Not much injury from insects, but during the autumn many of the crops were affected by a species of fungus or dry-rot, which caused blanks of several acres in a single field. Towards the time for storing the turnips the crops affected became soft and spongy; and while in many cases the shaws remained green, these, as well as the outer skin, came off when an attempt was made to pull them. On most farms there would be more weeds than usual, as the weather was not conducive to their destruction; the weeds were mostly annuals. *Live Stock*—Pastures would be fully better than those of the previous year, and during the late autumn there was a great "flush" of grass on all pastures. Cattle and sheep did fairly well on them; and while the latter left a good margin of profit for their summer keep, the very opposite was the case as regards cattle, even though "stores" were rather cheaper to buy in the spring. Sheep and cattle have been free from disease. *Clip of wool*—Wool clip was of average quality, but it would be under the average in weight on account of the cold backward spring.

PERTHSHIRE (Eastern District). *Wheat*—Very good bulky crop, above average; fine quality; average yield, 40 bushels; seed sown, 3 to 4 bushels. *Barley*—Fair crop; under average; irregular in quality; average yield, 34 bushels; seed, 3 to 4 bushels. *Oats*—Light crop, of fine quality, both of grain and straw; average yield, 34 bushels; seed, 4 to 6 bushels. *Harvest* began about usual time, and finished rather earlier. *Hay*—Good average crop, and secured in splendid condition; average yield, 42 cwt. *Potatoes*—Average crop; 7 to 8 tons per acre; very little disease; too many varieties. *Turnips*—Good sound crop; full average; 20 to 25 tons per 'acre; good braird, and very little second sowing. *Live Stock*—Pastures above average, especially in the late summer and autumn. Stock throve very well. *Clip of wool*—Good average.

PERTHSHIRE (Central District). *Wheat*—Very little grown, about 30 bushels; quality good; an average crop; 3½ bushels sown; well harvested. *Barley*.—About 38 bushels. Quality good as a whole, but some heating in stacks spoilt both grain and straw. About 4 bushels sown. Harvested too quick in some places, and much damaged before got in in others. *Oats*—About 46 bushels. Quality good as a whole, but a good deal was spoilt in the stacks, and badly harvested owing to the close weather. About 4 to 6 bushels sown. Harvested too quick in some places, and much damaged before harvested in others. *Harvest* much about the usual time, and although dry, there was great want of winning weather. *Hay*—About an average crop; about 1 ton 5 cwt. *Meadow-hay*—About an average crop; better than usual where cut late. *Potatoes*—A fair average crop; about 8 tons (dressed); no disease. *Turnips*—A fair good crop on the whole; about 20 tons on the average; crop brairded well; little second sowing. *Live Stock*—Pastures were a fair average growth; perhaps barely so good as the previous year. Stock throve well. Little or no disease has been reported in this district. There was a pretty serious outbreak of swine fever. *Clip of wool*—Wool was a good average clip.

PERTHSHIRE (Highland District). *Barley*—A very unsatisfactory crop both in straw and grain; 32 bushels, and well got in. Small area under barley. *Oats*—After lea up to an average; 42 bushels; but lighter in weight, and colour not good. Sown out land, 30 bushels. Straw of good quality and well got. *Harvest* a fortnight later; general about the 8th September. *Hay* a fair crop, well mixed; average about 25 cwt. per acre, and secured in good condition. *Meadow-hay* a good crop, but much later, owing to wet August, and very badly secured in the glens and outlying districts. *Potatoes* not nearly such a good crop as last year, two-thirds being very small; about 5 tons. No disease to complain of, and well secured. No new varieties planted. *Turnips*—About 15 tons; smaller in size than last year, but quality good; crop brairded well, and kept free of damage by insects, but suffered from frost in the early stages. *Live Stock*—Pastures during the season above the average in growth and quality. The moisture of August and warm weather in September gave great abundance of grass in autumn. Cattle and sheep did well, and took on condition beyond the average of years both on parks and hill ground. Both cattle and sheep were free from disease. *Clip of wool*—Wool both in quality and weight much above the average of years.

FORFARSHIRE (Western District). *Wheat*—5½ quarters; a real good crop of wheat this year, and quality good as well. Seed, where hand sown, from 3 to 4 bushels. *Barley* has been a disappointing crop, and not of good quality; the pea being very small, it took so many of them to fill a bushel, which made a small yield per acre—about 4½ quarters. Seed, where hand sown, 4 bushels. *Oats* were not so bad, but not so good as last year; about 6 quarters. Seed, where hand sown, from 4 to 5 bushels. *Harvest* about ten days later than last year. *Hay*—Quantity about 1 ton 15 cwt.; quality good. *Potatoes*—Quantity from 6 to 8 tons; much less than last year. No disease worth speaking about. No new varieties. *Turnips*—Weight of turnips from 24 to 32½ tons; quality good, although some were affected with dry-rot, and in some cases a little finger-and-toe.

Crop brairded well; not much, if any, second sowing. *Live Stock*—Pastures after May month were fully an average growth, and quality quite equal to last year. Stock throve very well. *Clip of wool*—The clip of wool was a heavy one, and quality good.

FORFARSHIRE (Eastern District). *Wheat*—40 bushels; 4 to 8 bushels short of last year; quality of grain and straw good. Seed, 4 bushels. *Barley*—40 to 44 bushels; 6 to 8 bushels short of last year. Quality and weight of grain poor, and straw secondary. Seed sown, 3 to 4 bushels. *Oats*—Very variable; heavy soil good, and light soil very poor; yield, 40 to 56 bushels. Straw mostly inferior, but grain fair. Seed sown, 4 to 6 bushels. *Harvest* commenced 28th August, or a week to ten days later than last year. *Hay*—Good hay crop; average, 3 tons 10 cwt., or about 10 cwt. under last year. Plenty of clover. *Potatoes*—About 8 tons, or 2 tons short of last year, but the quality better than for some years, with practically no disease. No new varieties planted to any extent, most farmers having returned almost wholly to "Up-to-Dates." *Turnips*—28 tons; 4 to 5 tons better than last year; brairded well; no second sowing; quality best for some years. *Live Stock*—Stock throve well on grass, both cattle and sheep. *Clip of wool*—An excellent clip, of good quality.

ABERDEENSHIRE (Buchan District). *Barley* or *Bere* was a fair average crop. Last year the yield was 38 bushels; this year it is about the same. Weight per bushel, 55 to 57 lb.; quality good. Seed sown, 3½ to 4 bushels. *Oats*—Not so much straw as last year, nor the same quantity of grain in general, although there were some very good crops after lea. The early part of the season was too dry to secure a good crop, while the latter was too wet, and the harvest in the later districts was protracted, with the result that the grain is not of so good quality as in earlier districts. Seed sown, 5½ to 7 bushels. *Harvest* begun about ten days later than last year. *Hay*—*i.e.*, ryegrass and clover—secured in very good condition, and is of good quality; reaped 30 to 35 cwt. *Meadow-hay*—Little grown in this district. *Potatoes*—Good yield, and of very good quality. *Turnips*—Not nearly so heavy a crop in general as last year, although they brairded well, there being almost no resowing. The long-continued dry weather in the early part of the season, and afterwards too much wet, have not tended towards making a heavy crop. Yield, 15 to 20 tons. *Live Stock*—Pasture was of fairly average growth, and cattle did well during the first part of the season, but not so well later, owing to the wet weather. Cattle and sheep have been free from disease.

ABERDEENSHIRE (Formartine District). *Barley*—Last year 38 bushels, this year 32 bushels, with an average bulk of straw. The bushel weight is extra good—viz., about 56 lb., and the grain, although rather dark in colour, is of fine quality. Seed sown, 4 to 4½ bushels. *Oats*—Last year 44 bushels, this year 40 bushels, with straw 20 per cent short of average. The bushel weight is about 42 lb. Quality of grain and straw only moderate, on account of indifferent harvest weather. Seed sown, 5 to 7 bushels. *Harvest* began about the usual time, and there was a marked deficiency of drying winds throughout; and the weather broke towards the end of it, so that there was a bad finish. *Hay*—Seeds—*i.e.*, ryegrass and clovers—are cut for hay, and yielded about 25 cwt.—about 3 cwt. less than last year; quality very fine. *Potatoes*—Last year 4 tons, this year 6 tons; not much disease; quality only moderate, but much better than last year. Some new varieties planted give heavier crops, usually of inferior quality. *Turnips*—Last year 15 tons, this year 22 tons. The crop brairded well, almost no resowing being required. There was very little damage from insects, but great damage from rooks, wood-pigeons, and small birds; little damage from weeds. *Live Stock*—Pastures were of average growth and quality, and stock throve fairly well on them.

ABERDEENSHIRE (Strathbogie District). *Barley*—Last season there was a considerable area under barley, but while the crop was about an average as far as straw was concerned, the return in grain has been disappointing, and has been at least 6 bushels per acre less than could have been anticipated; it has required a good crop to yield 4 quarters; the bushel weight has been generally about 56 lb. *Oats*—The season having been unusually dry during June and July, the straw of the oat crops has been very short, and fodder is scarce. The crop is not threshing nearly so well as last season, and the return on the whole will be under an average; the weight varies from 41 to 43 lb., the latter being perhaps exceptional. The weather during summer being hot and bright, the *harvest* began about ten days before the usual time. *Hay* did not give a heavy yield; perhaps 25 cwt. per acre may be taken as an average. The crop was generally well mixed with clover. During curing time the weather was unsettled, with heavy rains; difficulty was therefore experienced in saving the crop without damage. *Potatoes* generally were a good crop, and the quality is also good. There was no disease whatever among the tubers. There were no new varieties introduced last season. The varieties which are most popular in Strathbogie are "British Queen," "Maincrops," and "Up-to-Date." *Turnips* have been a good crop; perhaps, on the whole, not so heavy as last year. The braird was perhaps slow during the early part of the season, but latterly the plants grew very rapidly, and there was an entire absence of any trouble from insects or finger-and-toe. *Live Stock*—During the grazing season the pastures grew abundantly, and stock of all kinds did well upon them. Stock of all kinds have been particularly free from disease, and "vets" state that cattle and horses have been unusually healthy during the year. *Clip of wool*—The quality of the wool clip was very good. The winter season of 1905 and 1906 being remarkably open and food abundant, sheep did well, and the clip was improved thereby.

BANFFSHIRE (Lower District). *Barley*—36 bushels of good quality, weighing up to 56 lb. per bushel; 4 bushels of seed; straw of good quality. *Oats*—An average crop of 42 bushels, weighing up to 45 lb. per bushel. Straw more than last year. Seed sown, 5 to 6 bushels. *Harvest* commenced 1st September; short harvest; good weather. *Hay*—A fair crop of excellent quality, of from 150 to 200 stones. *Potatoes*—A fair crop of about 5 tons per acre, of excellent quality; no disease. A few new varieties planted, and did well. *Turnips*—An abundant crop of about 30 to 40 tons, of good quality. Turnips came away well, and no resowing. *Live Stock*—Better crop of grass this year. Cattle did well on grass. Anthrax has been more prevalent than last year, and one or two cases of sheep scab. *Clip of wool*—An average crop, quality good, and sold well.

BANFFSHIRE (Upper District). *Barley*—A disappointing crop, much under an average; yield of grain returns only from 2 quarters to 4 quarters per acre, the latter the exception; weight rather good, up to 57 lb. and over; generally seeded at 4 bushels. *Oats*—A middling crop, only not over bulky in straw, yielding from 3 to 4½ quarters per acre up to 43 lb.; sown with generally from 5 to 7 bushels. Every species of crop was seriously damaged by the storms and floods in the middle of May. *Harvest*—Harvesting general on 3rd and 4th weeks of September, or about the average time of reaping, but was a little interfered with by squally weather before a correct finish was obtained. *Hay* crop better than last year, but in instances deficient in clovers; cut up from 80 to 150 stones an acre. *Potatoes*—The potato crop had a bad start after the May tempests, and turned out of less bulk; however, of good quality and free from disease; cultivated only for home requirements. "Up-to-Dates," "Sutton's Abundance," and "Fortyfolds" are the most common. *Turnips*—The turnip crop had a most difficult start after the May storms. The soil had to be again wrought over, and the mould was raw and stiff. They brairded wonderfully well, and after a little throve very well. They are not up to the sizes of last year, from 20 to 25 tons. Heavy rains early in August prevented a proper use of the horse-hoe amongst turnips in particular, and annuals cropped up a good deal. *Live Stock*—Pastures were slow in starting, and failed rather early; and aftermath was not very general from want of clovers in hay crop. The grazing season being a short one, stock did not come out so much as desired. *Clip of wool*—A fair clip.

MORAYSHIRE. *Wheat*—A fair crop; average, about 38 bushels—6 bushels less than last year. Quality of grain and straw good; about 3½ to 4 bushels seed sown. *Barley*—Average, 33 bushels, being 2 bushels more than last year; quality of grain and straw good; yield of straw much better than last year. Seed sown, about 4 to 5 bushels per acre, and about 3 bushels when drilled in; weight, from 55 to 56 lb. *Oats*—Average yield, 42 bushels, being 6 bushels more than last year; weight, from 42 to 44 lb. per bushel; yield of straw good—better than last year; quality of both oats and straw good; seed sown, from 5 to 6 bushels. *Harvest* began about the usual time, the 1st September, and finished about the 1st October. *Hay*—The quality of clover-hay is first-class, being cured in splendid condition; average crop, 1 ton 15 cwt. per acre, being 7 cwt. more than last year. *Meadow-hay*—A rather better crop than last year, but not much grown in the county. *Potatoes*—About an average crop—6 tons per acre. No new varieties planted worth mentioning. Not much disease to report. *Turnips*—The average weight for the county comes out at about 18 tons, but on some farms well cultivated and carefully singled weights per acre (carefully weighed at the nitrate competitions) came out at 43 and 56 tons for yellows, and from 40 to 48 tons per acre for swedes. Braird well. A great deal of finger-and-toe in many places. *Live Stock*—Pastures were above an average growth and quality. Stock throve very well. Cattle and sheep free from disease, except abortion, which has been very prevalent amongst cattle of all breeds, and has caused great loss in many herds. *Clip of wool*—Good; rather over an average.

NAIRNSHIRE. *Barley*—Quantity and quality about the same as last year—36 bushels. *Oats*—About equal—44 bushels. *Harvest* began about the usual time. *Hay*—Rather better than last year. *Potatoes*—A better crop and much better quality; very little disease. *Turnips*—About equal to last year; brairded very well; only once sown. *Live Stock* throve very well.

INVERNESS-SHIRE (Inverness District). *Wheat*—The wheat crop of 1906 was larger in areas, and a heavier yield per acre, than for several years; quantity of seed sown, from 3½ to 4 bushels per acre; yield, from 40 to 50, and in some instances, 54 bushels. *Barley*—The barley crop was disappointing in return as regards quantity, but the quality was a full average and the natural weight, but the colour was disappointing on most farms; 3 to 4 bushels sown; yield, from 30 to 40 bushels. *Oats* were a good crop both in quantity and quality, and the yield per acre exceeds an average return; the usual quantity sown per acre on good land, 4 bushels, and from 5 to 6 on lighter land; return, from 34 to 50 bushels. *Harvest* began about the usual time, although later than the former year. *Hay*—The quantity of the hay crop was a full average, while the quality was excellent; yield, from 1½ to 2½ tons per acre, according to quality and condition of land. *Potatoes*—The yield of the potato crop was better than 1905, from 9 to 10 tons being quite common; no disease affected them; several new varieties grown, with promising results. *Turnips*—The average yield per acre on well-farmed land would be from 25 to 35 tons; the quality varied; the crop brairded all right, and no second sowing. Some of the turnip crop was affected to a considerable extent with finger-and-toe on some lands where worked while damp at time of sowing; while some could be traced to seed being affected with disease. There was a considerable amount of the usual weeds among grain and green crops; "knot-grass" was more prevalent than usual. *Live Stock*—The pasture grass was a full average of growth and quality to former years; stock throve fairly well. *Clip of wool*—About an average on lowland-fed sheep, but under an average upon the hill sheep.

INVERNESS-SHIRE (Island of Skye). *Oats* were an average crop, but the early sown fields were much lighter in straw than the late sown crop; the keen frosts in April must have affected the seed, as for several mornings in succession the ground was quite frozen. *Harvest* began about the usual time, and the crop was secured in the best of order. *Hay*—Ryegrass was a heavier crop than last year; and the clover, although long in showing through the ryegrass, improved very much the last three weeks before mowing. *Meadow-hay* was exceedingly heavy in this district, and on dry land, owing to the moist summer, was fully double the weight of last year's crop. *Potatoes*—The potato crop was much the same as last year; no new varieties sown. *Turnips*—The turnip crop was not up to the average, and on some farms finger-and-toe showed early in July; the crop brairded well, and there was no resowing. *Live Stock*—The pastures were very backward until June, but since then they have been exceedingly good and much above the average. Hill sheep having come through a hard winter and spring, came to the shears in a backward condition; since clipping, stock has done very well on the pastures. Cattle summered much better than last year. *Clip of wool*—The quality was about the average; the wool weighed much lighter than last year.

INVERNESS-SHIRE (Lochaber). *Oats*—Quantity of straw less than last year; yield of grain about 24 bushels; seed generally about 6 bushels. *Harvest* began usual time. *Hay*—Quality good; quantity, about 22 cwt. *Meadow-hay*—Average quantity. *Potatoes*—About 3½ tons; little disease; some "Northern Star" planted; resulted in no great crop. *Turnips*—About 15 tons; brairded well; second sowing not required. Usual damage by the common weeds. *Live Stock*—Pastures below average growth from drought. Stock did fairly well. *Clip of wool*—A fairly good clip.

ROSS-SHIRE (Dingwall and Munlochy District). *Barley*—Quality average; quantity barely; quality of straw fully average; quantity, 32 bushels; seed sown, 4 bushels. *Oats*—Quantity and quality of straw quite average; same may be said of grain; yield, about 40 bushels; seed sown, about 5 bushels. *Harvest* began about the usual time; weather broken, but harvest generally was completed in about thirty days. *Hay*—Quality was good; clovers plenty; weight, about 2 tons; was generally well secured. *Potatoes*—Crop was late, checked by drought in July; many of small size; not much disease; weight, about 8 tons. *Turnips*—Crop brairded irregularly, owing to wet and dry weather alternately; no second sowing; finger-and-toe very prevalent; fields were fairly good, others very poor; average in tons one-fourth less than last season. *Live Stock*—Pastures above usual. Stock throve well. *Clip of wool*—Average.

ROSS-SHIRE (Tain, Cromarty, and Invergordon District). *Wheat*—Good crop and quality; 36 to 38 bushels. *Barley*—Very irregular; great bulk in good land, but did not thresh out well; small bulk on light land; 32 to 34 bushels. *Oats*—Good crop and plenty straw; 46 to 48 bushels. *Harvest* ten days later than average. *Hay*—Lighter; well mixed; 30 to 35 cwt. *Potatoes*—One-third more; almost no disease; 8 tons; very few new varieties grown. *Turnips*—Lighter by 20 per cent; more finger-and-toe; brairded well; 16 to 18 tons. A great deal of wild mustard. *Live Stock*—Pastures quite average growth after a very cold May. Stock throve very well. *Clip of wool*—Much the same on low ground, but 25 per cent lighter on hill farms.

CAITHNESS-SHIRE. *Barley*—Fair crop; straw short; 32 to 36 bushels; from 3½ bushels. *Oats*—Straw short, but well secured; grain not threshing out as was expected; 24 to 36 bushels; from 5 to 6 bushels of seed. *Harvest* began about the usual time in September, and the weather continued favourable for machine-cutting; leading-in was done in good condition, and all was in yard with little break. *Hay* crop benefited by the rains in May; ryegrass and clover flourished, but some rain came at the handling of the crop; aftermath was good; in some instances there would be 1½ to 3 tons. *Meadow-hay*—Much as in former years, but kept growing longer. *Potatoes*—Fair average crop—4 to 6 tons; improving as weather kept good; but affected with disease, perhaps one-fifth or more, when prepared for table; mealy and of good flavour. *Turnips*—Wet May kept the swedes late, but the favourable summer helped, and there will be crops of 20 to 30 tons; the average is very much less; and finger-and-toe showed a good deal, especially in land that was worked wet. Grub did not affect the yield; a caterpillar on the shaws of turnips in latter end of August did some havoc, but not to any serious extent. Coltsfoot is spreading, and thistles are very thick on some spots; skellock holds its own, and spraying is not prevalent. *Live Stock*—Pastures kept growing well into harvest; the early clearing of fields helped stock to get a good bite. Horses, cattle, and sheep did very well on the pasture. Dipping sheep has a good influence; yet there have been deaths from exposure when cold wet nights follow, 2 to 3 per cent being fatal. *Clip of wool* was about an average, and the prices were improving.

ORKNEY. *Barley*—Bere a very poor crop, being about 8 bushels less than last year. A storm about the 18th of May, and another about the 19th of July, blasted all the crops and did much injury, especially to the bere and potatoes; the average yield was about 28 bushels, weighing about 44 lb., being 6 lb. less than last year; seed, 3½ to 4½ bushels. *Oats* were a fair crop; on some fields good, on others poor; straw rather short; the grain is less than last year, and below an average, being about 28 bushels, weighing about 39 lb.; seed, 4 to 6 bushels. *Harvest* began in the last week of September, being fully a week later than last year, which was about the usual time; the crops were secured quickly and in good condition. *Hay*—A good deal of hay was made and secured in good condition; average about 20 cwt., being a little less than last year. *Potatoes*

—A poor crop, with some disease; the storm in July blackened the leaves and checked growth; average about 3½ tons, rather less than last year. *Turnips*—A very good crop; average about 12 tons, being better than last year. After storm in May the weeds and grass sprang up and choked the oats in several fields. *Live Stock*—Pastures were good most of the season; and stock throve well, and were free from disease. *Clip of wool*—A good average.

SHETLAND. *Bere*—Grain under that of last year; straw about average. *Oats*—Grain and straw both under last year. *Harvest* about two weeks later. *Hay*—About average quantity and quality compared with last year. *Meadow-hay*—About average of last year. *Potatoes*—Better than last year; no disease; no new varieties. *Turnips*—Better than last year; braird fair; one sowing. *Live Stock*—Pastures similar to last year; stock did well. *Clip of wool*—Quality and quantity about average of former years.

THE METEOROLOGY OF 1906.

By ALEXANDER BUCHAN, LL.D., F.R.S.

The following table gives for each month, and for the year, a comparison of the direction and force of the wind, atmospheric pressure, temperature, rainfall, and cloud, as compared with the averages of the fifty years from 1856 to 1905:—

1906.	DIRECTION OF WIND—DAYS.								Calms.	Wind Force, scale 0 to 12.	Mean Pressure in inches.	Mean Temperature, degrees.	Rainfall.		Mean Cloud, scale 0 to 10.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.					In inches.	No. of days.	
Jan.	0	-1	0	-1	-2	+1	+3	+1	-1	+0·3	-0·111	+2·2	+ 0·61	+ 4	+0·2
Feb.	+1	-1	-2	-1	-1	0	+1	+3	0	-0·1	-0·234	-2·5	- 0·23	+ 1	-0·8
March	+3	0	-2	-1	-2	-1	+1	+2	0	0·0	+0·103	-1·0	+ 0·04	0	0·0
April	0	-1	-1	-1	0	0	+2	+1	0	-0·3	+0·142	-0·8	- 0·50	- 3	-1·2
May	0	0	0	0	0	0	-1	0	+1	0·0	-0·139	-2·1	+ 2·80	+ 9	+1·5
June	+1	+1	0	-1	-1	-1	+1	0	0	-0·2	+0·154	+0·9	- 1·13	- 2	0 0
July	-1	-1	-1	+1	0	+1	+2	-1	0	0·0	+0·029	-1·3	- 0·44	+ 1	-0·2
August	0	0	0	0	0	0	0	0	0	-0·4	+0·011	+1 0	+ 1·15	+ 4	+0·4
Sept.	-1	-1	0	0	0	-1	+2	0	+1	-0·8	+0·282	+1·7	- 1·70	- 6	-1·4
Oct.	-1	0	0	+1	+1	+1	-1	-1	0	-0·3	-0·115	+1 5	+ 1·87	+ 6	+0·6
Nov.	-1	0	0	0	-1	+1	+1	0	0	0·0	-0 068	+3 7	+ 0 94	+ 3	+0·7
Dec.	+1	-1	-2	-1	-1	-1	+2	+3	0	-0·1	+0 050	-1·1	- 0·21	+ 2	+0·4
Year	+2	-5	-8	-4	-7	0	+13	+8	+1	-0·2	+0·09	+0·2	+ 0·27	+ 2	0·0

JANUARY.—The mean temperature was 39°·5, or 2°·2 above the normal, the days being 2°·0 and the nights 2°·4 above their respective averages. In all districts the month was decidedly milder than usual, and this was especially so towards the south. In the north the second and third weeks were rather cold, but in many places, under the influence of the prevailing south-westerly winds, temperature remained almost continuously above the average. A particularly mild spell prevailed from 26th to 28th, the maximum temperature being 57°·5 at Tillypronie on 27th. Lowest readings occurred nearly everywhere on 22nd, with a minimum of 21°·5 at Lednathie, and sharp ground frosts occurred between 19th and 23rd.

The mean rainfall was 4·45 inches, or 16 per cent above the normal. In the Border counties there was a moderate shortage, and in Banffshire and parts of Aberdeenshire a decided one: indeed, the total of 0·70 inch at Gordon Castle was the smallest for January there since 1871. But across the country generally there was an excess, which was very large in Inverness-shire. Fort Augustus had almost twice its average allowance, and there were the following heavy aggregates: 21·71 inches at Glenquoich, 16·19 at Fort William, 15·62 at Glencarron. At Glenquoich rain fell on every day except the 1st, whilst Fort William had falls of more than two inches on 14th, 24th, and 27th.

Moderate gales were frequent, fog rather common, and for midwinter snowfalls of no great importance.

Thunder occurred at various places on 12th, 16th, 17th, and 28th. Sunshine was slightly deficient.

FEBRUARY.—The mean temperature was 35°·7, or 2°·5 below the normal, the days being 1°·9 and the nights 3°·1 below their respective averages. The month was thus much colder than January, the temperature deficiency being well marked in all districts. There was an alternation of short, sharp spells of frost, with very brief milder periods, and, considering the low mean temperature, very low individual readings were somewhat rare. The actual lowest was 10°·9 at Balmoral on 13th—Kingussie, Fort Augustus, and Lednathie reporting readings almost as low on the same date. The maximum was 51°·0 at Balruddery on 1st and at Lairg on 21st.

The mean rainfall was 2·84 inches, or 7 per cent below the normal. In the extreme north this was the wettest month of the year, and almost the wettest month on record, whilst in Edinburgh it was the driest month of 1906. With a large excess of winds from N.W. and N., Stornoway, Wick, and Dunrobin had twice their normal amounts; and the excess, in a diminishing degree, prevailed southwards as far as Fort Augustus and Braemar. Elsewhere there was a shortage of varying amount, and East Lothian had barely one-third of its average rainfall. Towards the south there were some very fine periods, whilst the heaviest general rains were from 7th to 10th, and on 24th and 25th. Glenquoich registered 1·73 inch on 8th, and Dunrobin 1·62 on 25th.

The month was an extremely sunny one, gales were rather frequent, and at times snow lay to considerable depth in the Highlands, especially about the 9th and near the close of the month.

Thunder at Glasgow on 25th, and lightning at Fort William on 14th and 25th.

MARCH.—The mean temperature was 38°·6, or 1°·0 below the normal, the days being 0°·7 and the nights 1°·2 below their respective averages. The defect was in general well marked, but some southern stations were in close agreement with the normal. The month opened with mild weather and light winds from the south-west. The second week was marked by N.W. winds and extreme cold; thereafter, except about 16th and at the very close of the month, low temperatures ruled, with winds from E. and N.E. On the night of 13th, when lowest readings were everywhere recorded, Fort Augustus registered 8°·6 in the screen and Crathes 0°·9 on grass. The maximum for the month was 58°·4 at Paisley on 20th, but as a rule highest readings were noted about 7th, 17th, and 30th.

The mean rainfall was 2·95 inches, or 1 per cent above the normal. Distribution was rather irregular. There were two well-defined areas of excess, one covering most districts north-west of the Grampians, but not extending to Orkney or the Hebrides; the other along a fairly wide belt on either side of a line from the Firth of Forth to Islay. Elsewhere there was a deficiency. Some heavy falls occurred from 1st to 17th, but with dry winds and low temperatures some western places were all but rainless during the last two weeks. The wettest periods were from 6th to 11th, and from 14th to 17th. On 16th Fort William registered close on 3 inches, and Glencarron, Stronvar, and Greenock falls almost as heavy.

There were some very stormy days; a snowstorm was general from 10th to 15th, with floods two or three days later as a consequence of heavy rains and the melting of the snow.

Sunshine was rather variable in amount, but abundant in the west. Thunder occurred in Mid-Lothian on 8th, at Glasgow on 9th, and at Kelso on 18th.

APRIL.—The mean temperature was 43°·3, or 0°·8 below the normal, the days being 1°·2 above and the nights 2°·8 below their respective averages. The month fell into two equal parts with quite different characteristics. Thus until the 15th sunshine was very abundant, with high day temperatures and cold nights. During this period the barometer was continuously high; but after the 15th the mercury was very irregular, and the weather continuously cold, with very low temperatures around the 19th. The maximum for the month was 72°·0 at Clathick on 9th, and the minimum 20°·0 at Lednathie on 4th, and at Stronvar and Leadhills on 19th.

The mean rainfall was 1·77 inch, or 22 per cent below the normal. Towards the north and north-west there was an excess as a rule, amounting to 40 per cent at Glencarron; but east and south of the Grampians there was a decided shortage, several districts having hardly half their average rainfalls. In Fifeshire and part of Perthshire the month was the driest of 1906. The dry weather of the latter half of March was prolonged through the first half of April, many places being rainless, or all but so, until the 15th. Thereafter rain was frequent, with heaviest falls about 16th and 20th, Glencarron registering 1·71 inch on the latter date.

The month was a very sunny one, especially during the first two weeks. From 15th onward the weather was very changeable, and often of a wintry character, with frequent falls of snow or sleet.

Thunder in the north on 21st, and at Stronvar, Bucklyvie, and Drumlanrig on 30th.

MAY.—The mean temperature was 46°·9, or 2°·1 below the normal, the days being 3°·3 and the nights 0°·8 below their respective averages. Very low day temperatures were accompanied with cloudy skies, and there were no spells of warm weather. Indeed at times the weather was of a quite wintry character, especially during the third week, though the actual lowest temperatures at most places fell on 1st or 2nd, Lednathie having 22°·0 in shade on the former day. Highest temperatures occurred about 7th, 13th, or between 26th and 30th,—Dumfries, with 73°·0 on 13th, being the only station with a reading over 70°·0.

The mean rainfall was 5·09 inches, or 122 per cent above the normal. In eastern districts generally the month was much the wettest May on record; and in East Lothian the excess was remarkable, Smeaton, with a total of 6·29 inches, having 3½ times its average and more than 2 inches above any May rainfall in a record going back to 1834. There was a decided excess in all parts of the country, except perhaps in a small part of West Ross-shire; but whilst the excess was moderate toward the north-west, to the south and east of the Grampians nearly all districts had much more than twice, and some more than thrice, their normal amounts. The normal "gradient" was entirely inverted, and the south-east and south of the country constituted the rainiest region and not the north-west. The absence of heavy falls at nearly all West Coast stations calls for remark; but we note as much as 2·33 inches at Smeaton on 19th, and 2·09 inches at Logie Coldstone on 16th.

In Berwickshire, East Lothian, and the coast of Forfarshire more rain fell than during the first four months of the year together.

Sunshine was much below the average; thunderstorms general during the last week, and the month altogether an exceptional one. Especially from 16th to 19th the weather was of a wintry character, with snow in districts.

Destructive flooding occurred in East Lothian on 19th and 20th.

JUNE.—The mean temperature was 55°·8, or 0°·9 above the normal, the days being 1°·6 and the nights 0°·1 above their respective averages. As a rule, the excess was well marked. At both the beginning and end of the month the nights were very cold, especially on 28th in central and northern districts, whilst between 11th and 15th some considerable temperature variations were experienced. Thus the highest reading for Scotland was 82°·7 at Paisley on 11th, whilst four days later the highest temperature there was only 60°·0. The absolute minimum was 32° 0 at Lednathie on 9th.

The mean rainfall was 1·39 inch, or 45 per cent below the normal. In most districts to the north of the Forth and Clyde this was the driest, in some cases decidedly the driest, month of the year. In East Lothian and the lower Tweed valley rainfall was about the average, but most stations had a shortage of from 30 to 50 per cent, whilst a few, such as Dunrobin and Stronvar, had only about one quarter of their normal amounts. From 2nd to 15th a practically rainless spell occurred in most districts, and towards the north-west this dry spell was prolonged until the 20th. Towards the close of the month rather heavy falls took place in the north, though dry conditions prevailed in the south.

Fresh snow was reported on the Grampians on 29th. Thunder occurred at isolated stations on various days.

Bright sunshine was rather above the average, though fog was somewhat prevalent around 10th, 18th, and 22nd.

JULY.—The mean temperature was 56°·0, or 1°·3 below the normal, the days being 0°·6 and the nights 2°·0 below their respective averages. A feature of the month was the absence of high day temperatures at many stations, whilst the nights were decidedly cold. Lowest readings were noted in most districts on 1st or 11th, but in some on 20th or later: 33°·0 at Lairg on 1st, and 33°·2 at Kingussie and 33°·5 at Balmoral on 11th. Highest readings occurred chiefly between 22nd and 26th, but here and there early in the month, the actual highest being 78°·0 at Dundee on 2nd and at Dumfries on 5th.

The mean rainfall was 2·68 inches, or 14 per cent below the normal. North-western stations had a decided excess, Fort William as much as 70 per cent; but in east and south there was a pronounced shortage. The generally dry character of June was continued until well on in the month; and most of the rain fell during the third week, except in parts of the eastern fringe of the country, where the 31st was a very wet day. Very heavy falls were registered in the north-west between 17th and 19th—the three days' aggregate at Glenquoich being more than 7 inches, whilst Fort William had 3·29 inches on 17th. We note farther south 1·11 inch at Leadhills on 16th, and 1·04 inch at Greenock on 18th. At Aberdeen a fall of 1·16 inch on that day was more than half the total for the month.

On 19th a sudden gale from the west, with a very low barometer and heavy rain, was severely felt in the north, and caused serious loss to the Shetland fishing fleet.

Severe thunderstorms occurred at some western stations on the night of 30th, and towards the east on 31st.

Sunshine was decidedly above the average in amount.

AUGUST.—The month of August was 57°·5, or 1°·0 above the normal, the days being 0°·8 and the nights 1°·2 above their respective averages. The most striking feature of the month was a remarkable heat wave which spread northwards from England during the last three days, with highest readings on 31st, when many stations had maxima above 80°·0, the actual highest being 85°·4 at Loanhead (Logie Coldstone). There were, however, some very cold periods, and about 22nd and 23rd the day temperatures were very low for the time of year. The lowest night temperature was 32°·3 at Lairg on 23rd, but in most districts the minimum was registered on the night of the 18th.

The mean rainfall was 4·83 inches, or 31 per cent above the normal. At Cargen (near Dumfries) a total of 8·74 inches was the heaviest August rainfall there for at least forty years, and in the south and east generally there was a large excess. At the other extreme, Stornoway had little more than half its average, and Fort William and Glencarron small deficiencies, whilst towards the west and north generally distribution was irregular. Heaviest falls occurred on 2nd, when Dumfries had 1·70 inch, on 8th (2·51 inch at Tillypronie), on 13th (1·08 inch at Smeaton), and on 16th (1·23 inch at Tillypronie). The closing days of the month were rainless.

A severe thunderstorm was general on 2nd, with serious flooding at Dundee and elsewhere.

For the greater part of the month the skies were much cloudier than usual, with rather frequent fog, but the closing days were characterised by brilliant sunshine in all districts.

SEPTEMBER.—The mean temperature was 54°·5, or 1°·7 above the normal. The nights had practically their average temperature, but the days were 3°·4 above. The remarkable heat wave of the last three days of August continued into the early days of September, with "record" readings in places. Gordon Castle reached 90° in the shade on 1st, Dumfries 89° on 2nd, Duns 89° on both 1st and 2nd, whilst 88° was touched at Paisley, Haddington, Dalkeith, Broomlands, and Wolfelee. Cooler weather set in about the 4th, and there were thereafter no very notable variations, though some ground frost occurred during the last week. Indeed frost in shade was registered at places; and we note 27°·0 at Crathes on 27th, 28°·0 at Kingussie on 17th, and 28°·9 at Balmoral on 30th.

The mean rainfall was 1·82 inch, being 48 per cent below the normal, and the lowest September mean since 1895. In the Border counties some of the amounts registered were quite trifling, shortages of at least 50 per cent were widespread, and in most southern districts the month was the driest of the year. Deerness, however, had a trifling excess, whilst heavy falls occurred towards west and north on 5th, 11th, and 13th. We note—on 5th, 1·98 inch at Glencarron; on 11th, 1·02 inch at Dunrobin and 1·70 inch at Lochbuie; and on 13th, 1·26 inch at Baltasound (Shetland). The last half of the month was practically rainless.

The weather was stormy about the 5th. Thunder occurred here and there during the first half of the month, and large amounts of sunshine were recorded Some dense fog, however, occurred during the closing days.

On the 22nd a brilliant aurora was visible in the north.

OCTOBER.—The mean temperature was 48°·0, or 1°·5 above the normal, the days being 1°·6 and the nights 1°·4 above their respective averages. Southerly winds were rather more frequent than usual, and the first ten days were exceedingly mild for the season. Indeed the only low temperatures experienced were on the 14th and for a few days thereafter, and at the very end of the month. The temperature excess was well marked in all districts, but especially to the south of the Forth and Clyde. The extremes reported were as follows: highest, 68°·0 at Haddington on 5th and at Drumlanrig on 6th, and 67°·5 at Lairg on 7th; lowest, 21°·0 at Lairg on 30th, 23°·0 at Balmoral on the same day, and 24°·0 at Leadhills on 14th.

The mean rainfall was 5·91 inches, or 46 per cent above the normal. In the Hebrides, Orkney, and the northern counties, rainfall was below the average, but elsewhere there was an excess of varying amount; and, considering the country as a whole, the month may be described as less wet than October 1903, but with that exception the wettest October since 1874. The Lothians and Berwickshire received considerably more than twice their average rainfall, Smeaton on 19th registering no less than 3·28 inches. The number of rainy days was large, few stations had a spell of three consecutive dry days, and very heavy falls occurred on 11th, 18th, and 19th, and from 26th to 28th. More than two inches fell at Gordon Castle, Balmoral, and Smeaton on 19th, and at Leadhills on 28th.

A north-easterly gale was general in east and north on 19th, and a southerly gale in north and west on 26th.

Snow fell in places about 14th and 19th; fog was rather frequent, especially in the east and north early in the month, and sunshine was on the whole deficient.

NOVEMBER.—The mean temperature was 44°·6, or 3°·7 above the normal, the days being 2°·8 and the nights 4°·5 above their respective averages. As in October, there were only brief interruptions of cold weather, these occurring about 10th, or between 17th and 21st, the decided temperature excess being well marked in all districts. From 22nd to 24th, and to a more moderate degree thereafter, unusually high temperatures prevailed under the influence of south-westerly winds. This was especially so in the Lothians and the North of Scotland, Leith and Gordon Castle both having maxima above 60°·0 on three consecutive days. The absolute maximum was 68°·0 at Lairg on 23rd, whilst the absolute minimum of 26°·0 occurred at several stations, and on various days: at Bucklyvie on 10th, at Balmoral on 11th, at Lairg on 17th, and at Balmoral and Crathes on 21st.

The mean rainfall was 4·74 inches, or 25 per cent above the normal. The distribution was very irregular. Thus in the extreme south and west there was a moderate deficiency, whilst in Sutherlandshire and from Dunrobin, round the fringe of the Moray Firth, and in part of the mountain region of Aberdeenshire, the amounts were at places unprecedentedly heavy. Thus the Dunrobin total of 8·66 inches was about 3 inches above any November rainfall recorded in the last forty years. In northern districts, the first five days and the last half of the month were almost continuously wet, with very heavy falls from 17th to 19th. We note—on 17th, 1·67 inch at Dunrobin and 1·47 inch at Lairg; and on 19th, 2·50 inches at Balmoral, 1·77 inch at Dunrobin, and 1·36 inch at Gordon Castle.

Hail was fairly frequent, and in various districts a little snow or sleet fell between 18th and 20th. For the time of year fog was of extremely rare occurrence; and whilst the weather was rather stormy between 17th and 23rd, and at the close of the month, there were no very severe gales.

Sunshine was on the whole rather deficient.

DECEMBER.—The mean temperature was 37°·0, or 1°·1 below the normal, days being 0°·7 and nights 1°·5 below their respective averages. The mild weather of November was prolonged throughout the first week of the month; the second week was decidedly cold, milder conditions again prevailing. From 24th to 31st, with winds from the north-west, the weather was of an extremely wintry character, with lowest readings in general on the night of the 30th, but towards south-west and south on 26th. At Aberdeen during the two days 29th and 30th the thermometer did not rise above 21°·0, whilst the lowest shade readings were 4°·0 at Crathes, 7°·0 at Balmoral, and 9°·0 at Leadhills. Highest readings were noted on 2nd and 3rd, or between 17th and 19th, Lednathie reporting 59°·3 on 3rd, and Crathes 58°·0 on 2nd.

The mean rainfall was 3·92 inches, or 5 per cent below the normal. Over about half the country there was a decided shortage; in parts the agreement with the normal was close; whilst in Orkney, towards north-west and south-west, in East Lothian, and in parts of Aberdeenshire there was an excess. In the north-west rain fell on every day from 1st to 20th, Glencarron registering about 7½ inches during the first five days and more than 3½ inches on the 3rd alone. In many districts but little rain fell from 17th to 24th; whilst the heaviest general falls took place early in the month, on the 12th and on the 15th. During the last week precipitation was in the form of snow.

The month was memorable for a severe snow-storm experienced during the last six days. With a gale from the north-west the storm was of the nature of a blizzard, and parts of the north-east of Scotland and the Border counties were isolated for some days, the drifts being in places of great depth.

The weather was stormy also in north and west from 5th to 7th, and from 12th to 14th a moderate snow-storm occurred in districts.

Sunshine was slightly in excess. Thunder occurred at some western places on 5th; and in Shetland and at Aberdeen on 27th.

The exceptionally heavy rains in May occasioned much damage to the turnip-crop in south-eastern counties, and again the equally heavy rains in October over nearly the same districts did much damage to the outstanding crops still in the fields. Otherwise the weather was on the whole favourable to the farmer.

Cutting commenced generally about a week later than the average time, except in Shetland, Orkney, the Buchan district, eastern districts south of Montrose, the Clyde basin, and the counties of Ayr and Wigtown.

Wheat was on the whole an average crop, and in some districts rather over it, whilst in a few scattered places it was under the average.

Barley showed a shortage, more or less, from the Cheviots to near the Moray Firth. As regards *Oats* the shortage may be considered as covering the districts south of the Grampians. To the north of this the crop was on the whole a very good average.

Potatoes were a good crop, chiefly over districts to the north of the Grampians; southward, however, while a few districts gave a very good average, the crop was deficient in many places, and disease made its appearance owing to the persistent wet weather.

Turnips were a good crop, showing in many places a high average, except where the crop was damaged by the heavy rains of May.

Hay and Pastures were unwontedly heavy crops, brought about by the large rainfall of the year and its distribution through the months.

AGRICULTURAL STATISTICS.—[illegible]

TABLE NO. 1.—ACREAGE UNDER CROPS AND GRASS IN EACH COUNTY OF SCOTLAND.

Counties.	Total Acreage under Crops and Grass.	Arable Land.	Permanent Grass.	Corn Crops.							Potatoes.	Turnips or Swedes.	Mangels.	Cabbage.	Rape.	Vetches or Tares.	Small Fruit.	Clover, Sainfoin, and Grasses under Rotation.	Other crops.	Bare Fallow.
				Wheat.	Barley or Bere.	Oats.	Rye.	Beans.	Peas.	Total.										
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1. Aberdeen	629,158	591,580	37,578	5	25,321	187,457	227	568	383	213,961	7,289	87,585	23	158	126	2,429	373	278,899	359	378
2. Argyll	133,458	56,115	77,343	1	1,482	17,570	469	100	1	19,623	4,093	5,776	49	102	91	15	28	26,136	72	125
3. Ayr	319,461	154,570	164,891	868	865	45,178	74	1,085	18	48,088	9,924	6,550	623	485	200	19	202	88,055	240	189
4. Banff	160,199	150,774	9,425	6	10,150	47,736	74	131	67	58,164	2,004	21,628	4	13	21	919	15	67,967	7	37
5. Berwick	191,773	143,657	48,116	2,053	19,668	32,186	44	814	4	54,769	2,486	26,190	221	459	412	595	33	58,494	3	45
6. Bute	25,777	16,252	9,525	..	47	4,829	81	50	3	5,010	1,002	1,354	8	25	69	2	64	3,248	84	386
7. Caithness	111,897	83,702	28,195	..	1,123	32,771	106	6	12	34,018	1,644	12,987	15	50	..	437	7	34,465	2	77
8. Clackmannan	15,371	9,749	5,622	303	366	3,248	..	474	..	4,391	330	805	3	23	31	19	12	3,893	..	192
9. Dumbarton	50,611	29,856	20,755	770	233	7,037	7	178	3	8,228	2,440	1,390	22	201	56	28	56	17,231	33	176
10. Dumfries	257,164	145,756	111,408	79	784	42,148	3	32	5	43,051	3,626	17,819	330	456	521	27	65	79,761	47	53
11. Edinburgh	127,025	84,603	42,422	5,401	4,929	22,154	28	80	142	32,734	6,597	10,695	82	658	478	221	240	32,474	395	29
12. Elgin or Moray	100,746	92,088	8,658	616	12,784	21,695	761	33	14	35,903	1,997	14,989	9	11	2	336	21	38,717	25	128
13. Fife	254,317	178,173	76,144	10,835	20,876	38,874	1,083	984	9	72,661	16,229	28,300	59	443	219	653	204	63,961	79	360
14. Forfar	249,399	222,666	26,733	8,464	29,534	47,623	902	345	30	86,898	14,813	32,696	30	254	42	324	419	87,038	132	20
15. Haddington	111,832	91,698	20,134	5,225	15,151	17,016	79	281	126	37,878	9,063	15,085	195	553	129	133	332	27,948	327	100
16. Inverness	149,053	86,297	62,756	77	7,291	29,706	767	7	4	37,852	6,060	10,628	12	55	2	80	32	30,589	14	973
17. Kincardine	119,568	109,094	10,474	531	13,679	27,163	61	279	31	41,744	3,055	16,956	1	36	4	388	120	46,613	154	23
18. Kinross	35,338	22,224	13,114	28	417	6,383	75	16	..	6,919	722	2,506	7	49	86	28	26	11,769	2	20
19. Kirkcudbright	191,786	100,560	91,226	63	15	26,219	..	52	5	26,354	1,561	12,090	93	210	1,126	13	32	58,854	51	176
20. Lanark	256,208	142,024	114,244	2,208	184	38,712	55	488	8	41,655	4,818	9,557	49	1,111	1,032	157	2,040	80,914	398	298
21. Linlithgow	58,212	34,531	23,681	1,801	2,580	10,138	3	256	15	14,793	2,302	3,530	21	174	224	180	59	13,204	7	37
22. Nairn	25,218	23,141	2,077	..	3,497	5,282	116	..	12	8,907	329	4,099	4	7	4	86	6	9,677	5	67
23. Orkney	108,017	90,493	17,524	..	4,357	33,768	1	3	26	38,155	2,709	14,479	1	36	..	313	..	34,656	4	50
24. Peebles	49,905	34,771	15,134	..	470	7,437	7	..	5	7,919	382	3,861	..	102	604	31	24	21,874	18	6
25. Perth	337,147	230,811	106,336	5,543	13,127	65,317	818	1,846	13	86,664	13,732	28,114	71	318	420	200	2,139	97,905	115	1,043
26. Renfrew	90,329	43,538	46,791	1,580	29	10,682	21	209	3	12,524	3,158	2,195	44	363	31	26	145	24,923	60	69
27. Ross & Cromarty	140,801	111,383	29,418	998	12,333	29,459	710	8	18	43,526	7,187	15,600	71	225	64	509	23	48,768	19	301
28. Roxburgh	182,991	113,456	69,535	527	11,910	27,675	..	350	8	40,470	1,281	20,623	51	438	426	246	69	49,832	41	29
29. Selkirk	29,450	16,585	12,865	16	226	4,652	3	..	1	4,898	183	2,569	..	38	132	51	6	8,707	1	..
30. Shetland	58,088	16,530	41,558	..	1,382	7,797	..	..	..	9,179	2,801	1,505	..	704	..	2	..	1,886	..	458
31. Stirling	115,940	64,099	51,841	1,762	2,504	18,495	77	2,608	12	25,458	3,283	4,081	17	246	268	160	151	29,288	142	1,000
32. Sutherland	31,542	23,494	8,048	16	984	8,060	77	..	3	9,140	1,564	3,045	..	17	22	32	2	9,510	2	160
33. Wigtown	155,198	118,644	36,554	305	398	32,328	18	237	..	33,286	1,522	14,594	307	175	133	21	14	68,392	67	183
Total	4,873,039	3,432,914	1,440,125	50,081	218,696	956,785	6,747	11,520	981	1,244,810	140,186	448,956	2,422	8,195	6,975	8,680	6,959	1,555,648	2,905	7,178

TABLE NO. 2.—ESTIMATED TOTAL PRODUCE OF WHEAT, BARLEY, AND OATS, ACREAGE and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1895-1904, in each COUNTY of SCOTLAND.

COUNTIES.	WHEAT.						BARLEY, INCLUDING BERE.						OATS.					
	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre. 1905.	Estimated Yield per Acre. 1904.	Estimated Yield per Acre. 1903.	Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre. 1905.	Estimated Yield per Acre. 1904.	Estimated Yield per Acre. 1903.	Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre. 1905.	Estimated Yield per Acre. 1904.	Estimated Yield per Acre. 1903.	Average of the Ten Years, 1895-1904.
	Bush.	Acres.	Bush.	Bush.	Bush.	Bush.	Bush.	Acres.	Bush.	Bush.	Bush.	Bush.	Bush.	Acres.	Bush.	Bush.	Bush.	Bush.
Aberdeen	302	8	37.75	..	32.00	*31.43	816,160	23,708	34.43	33.89	31.51	33.81	6,825,886	189,078	36.10	34.99	35.33	35.11
Argyll	..	..	..	..	..	..	47,818	1,307	36.59	32.87	29.01	30.55	566,760	17,788	31.95	32.46	29.96	30.86
Ayr	37,650	788	48.08	33.99	33.34	38.12	36,514	879	41.54	39.15	36.66	39.86	2,206,895	44,892	49.16	44.71	42.44	45.16
Banff	..	..	..	..	32.00	*33.78	335,380	9,550	35.12	36.72	33.84	35.27	1,759,878	48,847	36.39	37.74	37.85	36.79
Berwick	89,426	2,269	39.41	37.67	36.85	35.26	805,609	18,781	42.89	38.65	36.87	36.87	1,086,296	33,068	32.85	41.58	40.15	37.99
Bute	..	..	..	..	..	..	1,087	35	31.06	37.60	34.05	39.69	168,690	4,822	34.98	36.54	36.94	35.80
Caithness	..	..	..	..	6.00	‡18.54	31,325	1,021	30.68	29.24	25.47	28.18	1,031,968	33,007	31.26	30.58	25.78	29.95
Clackmannan	11,280	268	42.09	38.64	36.89	39.08	13,886	393	35.38	31.08	30.27	34.59	120,200	3,248	37.01	37.34	37.42	40.99
Dumbarton	28,076	702	39.99	37.87	38.75	38.70	7,306	178	42.28	38.56	31.27	40.15	298,334	6,956	42.89	40.82	33.98	40.16
Dumfries	2,920	77	37.92	37.26	37.00	38.41	24,146	664	36.36	37.85	35.63	36.72	1,885,609	41,892	38.08	34.10	32.81	34.03
Edinburgh	256,745	4,986	51.49	40.52	43.51	44.86	207,695	4,583	45.32	44.27	43.10	44.02	959,131	21,952	43.69	46.27	48.07	42.81
Elgin or Moray	24,996	550	45.45	38.01	37.70	37.90	417,190	12,865	32.48	30.54	34.00	34.32	787,182	21,864	36.00	31.98	39.18	37.23
Fife	478,496	10,827	43.78	35.83	38.36	35.43	864,387	20,214	42.76	36.41	38.48	36.28	1,444,821	39,258	36.80	38.44	42.28	40.26
Forfar	315,445	8,822	37.90	35.67	32.69	36.06	1,161,095	28,628	40.56	39.78	38.46	38.09	2,171,993	49,083	44.30	46.81	47.98	44.56
Haddington	237,259	5,141	46.15	42.39	40.32	40.39	663,916	15,088	44.15	42.98	39.28	41.73	750,826	17,241	43.55	46.88	48.89	43.77
Inverness	981	22	42.82	24.00	24.83	27.37	281,982	7,346	38.39	20.37	22.17	26.96	891,192	30,057	29.65	25.62	26.24	29.45
Kincardine	19,815	534	37.11	37.71	34.71	36.85	452,599	12,905	35.07	34.26	32.82	35.83	1,072,150	27,810	38.55	38.88	38.79	39.75
Kinross	1,780	46	38.70	36.00	30.00	†35.41	12,734	336	37.90	35.58	29.22	33.30	221,680	6,556	33.81	35.48	31.49	31.47
Kirkcudbright	1,698	49	34.65	32.64	31.42	34.05	1,166	35	33.31	30.75	31.85	33.95	969,855	25,888	37.54	32.59	35.41	34.36
Lanark	77,147	2,096	36.81	35.46	31.83	35.34	8,685	268	32.41	32.84	29.42	32.80	1,426,486	37,374	38.17	38.48	34.00	35 99
Linlithgow	75,811	1,563	48.18	43.48	43.16	41.72	111,846	2,645	42.29	44.04	43.61	43 98	419,042	10,027	41.79	45.10	43.69	43.87
Nairn	..	..	..	..	..	..	89,624	3,461	25.90	25.57	30.96	31.51	148,162	5,333	27.78	26.46	36.25	34.39
Orkney	..	..	..	..	..	..	151,191	4,566	33.11	33.26	33.14	33.96	1,078,001	33,491	32.04	31.67	27.31	29 01
Peebles	..	..	..	..	32.00	*31.22	12,906	380	33.96	35.72	32.57	34.10	246,586	7,482	32.99	35.98	33.04	33.96
Perth	222,833	5,553	40.13	38.68	35.16	38.52	492,931	12,213	40.36	37.97	37.66	36.10	2,518,865	66,383	37.94	38.40	39.04	36.59
Renfrew	63,148	1,495	42.24	40.27	39.54	39.92	2,088	47	44.32	38.57	43.05	41.26	502,341	10,788	46.59	40.51	38.24	42.13
Ross and Cromarty	22,899	959	23.88	26.23	29.24	33.60	323,952	12,476	25.97	28.04	20.88	33.81	772,214	29,648	26.05	28.26	30.94	34.30
Roxburgh	18,016	521	34.58	32.79	32.97	32.26	436,948	11,979	36.48	36.09	35.10	34.42	980,280	28,187	34.78	37.70	35.84	35.55
Selkirk	160	5	32.00	..	30.00	§29.17	6,630	221	30.00	28.00	27.11	28 09	150,461	4,702	32.00	33.00	35.00	34.26
Shetland	..	..	..	..	..	..	36,192	1,417	25.54	23.80	22.38	24.62	214,541	7,888	27.20	25.78	24.42	25.40
Stirling	77,317	1,648	46.92	35.46	33.78	30.42	98,731	2,511	39.32	31.87	32.02	35.02	718,522	18,557	38.72	36.90	36.85	39.00
Sutherland	333	12	27.75	..	25.00	..	36,967	1,037	35.65	20.54	22.11	26.31	310,537	8,174	37.99	22.88	23.70	26.25
Wigtown	6,398	202	31.67	31.09	29.79	28.79	13,770	452	30.46	30.82	31.23	31.80	1,077,695	32,296	33.37	34.31	33.62	33.50
Total	2,065,381	48,638	42.46	38.53	36.01	37.72	8,004,446	212,134	37.78	35.77	35.05	35.79	35,277,807	962,972	36.63	36.61	36.24	36.13

* Average for 9 years only. † Average of 8 years only. ‡ Average for 7 years only. § Average of 6 years only.

TABLE No. 3.—ESTIMATED TOTAL PRODUCE OF BEANS, PEAS, AND POTATOES, ACREAGE and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1895-1904, in each COUNTY of SCOTLAND.

COUNTIES.	BEANS.						PEAS.						POTATOES.					
	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.
			1905.	1904.	1903.				1905.	1904.	1903.				1905.	1904.	1903.	
	Bush.	Acres.	Bush.	Bush	Bush.	Bush.	Bush.	Acres.	Bush.	Bush.	Bush.	Bush.	Tons.	Acres.	Tons.	Tons.	Tons.	Tons.
Aberdeen	2,688	134	20.06	23.43	26.17	25.95	3,745	172	21.77	18.12	19.84	21.74	38,557	7,736	4.98	6.68	4.40	5.12
Argyll	1,668	63	26.48	31.29	22.68	20.84	25	1	25.00	25.50	15.67	19.94	25,478	4,306	5.92	6.02	5.28	4.67
Ayr	25,279	701	36.06	34.05	29.75	33.86	275	8	34.37	34.50	32.10	34.20	83,582	9,958	8.39	8.21	7.25	7.08
Banff	3,740	122	30.66	29.43	17.71	26.12	556	28	19.86	23.68	17.51	21.71	14,377	2,043	7.04	9.04	5.68	6.30
Berwick	32,193	824	39.07	31.20	33.28	33.62	509	18	28.28	27.00	28.00	27.31	21,330	2,579	8.27	6.39	5.28	6.10
Bute	1,048	38	27.58	32.23	26.23	22.85	74	3	24.67	20.50	19.00	18.70	8,171	1,001	8.16	8.08	7.41	6.01
Caithness	..	..	..	4.94	6.00	6.78	..	..	..	6.00	5.50	8.83	7,788	1,708	4.56	7.29	4.70	5.55
Clackmannan	16,084	407	39.52	37.64	33.66	34.02	..	..	..	..	..	—	4,597	447	10.28	9.45	9.81	9.31
Dumbarton	3,749	125	29.99	25.18	20.26	23.28	94	3	31.33	24.25	19.40	22.29	20,671	2,481	8.33	7.27	6.30	7.42
Dumfries	444	14	31.71	29.00	27.00	28.82	306	11	27.82	25.25	25.40	22.89	24,472	3,797	6.45	6.78	5.92	6.14
Edinburgh	1,797	49	36.67	37.82	31.61	34.43	4,251	133	31.96	30.09	27.12	27.27	63,546	7,296	8.71	8.38	8.07	7.29
Elgin or Moray	517	26	19.88	25.69	26.92	28.81	271	17	15.94	23.74	25.17	24.64	13,628	2,115	6.44	6.39	5.44	5.60
Fife	34,520	984	35.08	36.34	34.83	34.56	192	6	32.00	33.20	34.55	29.60	125,909	16,889	7.46	7.49	4.62	5.44
Forfar	10,403	338	30.78	32.20	30.59	33.38	757	29	26.10	27.62	31.11	27.02	97,551	14,852	6.57	7.87	5.98	6.20
Haddington	12,253	330	37.13	36.12	35.13	35.64	3,467	95	36.49	35.58	29.83	28.86	72,047	9,157	7.87	7.81	7.22	6.80
Inverness	216	9	24.00	18.00	16.00	*18.35	196	11	17.82	19.80	16.36	20.44	28,277	6,159	4.59	4.40	3.99	3.98
Kincardine	9,750	286	34.09	34.19	34.56	33.64	527	19	27.74	29.18	32.00	29.11	15,837	2,992	5.29	6.83	4.43	5.71
Kinross	792	22	36.00	34.00	21.00	32.57	..	..	..	..	..	—	6,508	760	8.56	8.79	5.25	5.93
Kirkcudbright	1,626	50	32.52	29.09	31.00	31.15	90	3	30.00	25.00	22.25	27.13	10,053	1,600	6.28	7.21	5.56	5.51
Lanark	12,371	380	32.56	33.71	26.56	31.49	272	13	20.92	24.10	23.17	26.60	42,300	4,928	8.59	8.29	6.76	7.45
Linlithgow	8,292	226	36.69	34.98	31.85	33.86	229	7	32.71	33.00	28.00	27.81	17,530	2,315	7.57	7.52	7.82	7.17
Nairn	20	1	20.00	..	..	—	112	6	18.67	12.75	18.50	*20.56	1,348	337	4.00	5.59	4.88	4.70
Orkney	..	..	..	..	..	—	..	..	..	..	..	..	12,469	2,798	4.46	6.84	4.93	6.55
Peebles	..	..	..	..	..	—	116	4	29.00	28.00	26.32	25.18	2,671	347	7.70	7.61	5.86	6.63
Perth	60,187	1,776	33.89	37.34	32.28	35.07	112	5	22.40	28.71	30.87	30.23	104,267	14,314	7.28	7.99	5.67	6.86
Renfrew	5,033	123	40.92	39.55	37.62	39.06	108	3	36.00	..	35.87	*36.39	25,321	3,205	7.90	7.29	7.48	7.14
Ross and Cromarty	189	17	11.12	16.00	10.83	17.93	135	13	10.38	13.86	15.15	18.84	25,611	7,327	3.50	4.15	3.39	3.89
Roxburgh	9,187	276	33.29	33.27	28.41	31.46	304	10	30.40	27.57	26.67	28.30	9,630	1,336	7.21	6.68	5.84	5.72
Selkirk	..	..	..	..	..	—	30	1	30.00	..	26.00	*27.37	1,176	196	6.00	5.00	4.00	4.63
Shetland	..	..	..	..	..	—	..	..	..	..	..	..	12,276	2,858	4.30	4.08	3.04	3.99
Stirling	106,362	2,471	43.04	34.09	30.83	31.95	165	4	41.25	23.80	22.67	26.44	28,986	3,345	8.67	8.15	6.95	7.64
Sutherland	92	4	23.00	6.88	..	†14.61	150	6	25.00	11.25	12.00	14.89	5,652	1,594	3.55	4.58	3.87	3.83
Wigtown	4,368	127	34.39	33.49	26.22	30.08	40	1	40.00	33.12	29.00	29.64	7,935	1,499	5.29	5.22	5.00	4.51
Total	364,818	9,923	36.76	34.53	31.24	33.08	17,108	680	27.16	26.74	26.20	25.54	979,641	144,265	6.79	7.13	5.64	5.90

TABLE No. 4.—ESTIMATED TOTAL PRODUCE of TURNIPS (including SWEDES) and MANGELS, ACREAGE and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1895-1904, in each COUNTY of SCOTLAND.

COUNTIES.	TURNIPS.						MANGELS.					
	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904
			1905.	1904.	1903.				1905.	1904.	1903.	
	Tons.	Acres.	Tons.	Tons.	Tons.	Tons.	Tons.	Acres.	Tons.	Tons.	Tons.	Tons.
Aberdeen	1,337,610	87,550	15.28	15.58	11.78	13.97	155	12	12.92	18.50	11.83	11.81
Argyll	84,448	5,592	15.10	17.50	11.15	18.74	496	49	10.12	11.86	6.84	8.51
Ayr	145,770	6,484	22.48	18.16	15.90	18.07	14,251	591	24.11	18.81	15.11	18.84
Banff	390,879	21,647	18.06	21.89	12.16	16.75	36	4	9.00	9.67	6.00	11.36
Berwick	443,680	25,803	17.19	16.73	18.89	15.51	5,745	232	24.76	13.08	13.61	16.78
Bute	24,401	1,384	17.68	21.28	11.41	16.28	118	7	16.86	17.12	15.80	12.77
Caithness	255,951	13,202	19.39	14.06	9.57	18.49	..	.	..	6.00	5.40	8.06
Clackmannan	10,205	800	12.76	18.57	9.78	11.07	40	4	10.00	9.80	9 86	9.89
Dumbarton	28,086	1,374	20.44	17.97	12.81	17.57	454	26	17.46	18.15	11.64	15.82
Dumfries	247,294	17,333	14.27	16.65	12.72	15.41	5,358	382	14.03	14.12	16.93	20.24
Edinburgh	193,604	10,571	18.31	20.62	18.68	18.56	1,130	51	22.16	28.24	21.59	19.27
Elgin or Moray	300,075	15,047	19.94	19.97	14.77	17.19	171	9	19.00	18.69	14.27	17.20
Fife	324,280	22,540	14.38	20.83	11.85	14.82	364	35	10.40	11.06	8.54	18.57
Forfar	584,985	32,252	18.14	21.07	15.72	17.82	550	37	14.86	19.17	13.60	21.18
Haddington	271,684	14,891	18.24	19.80	17.85	17.90	4,198	200	20.99	21.74	18.24	18.84
Inverness	199,180	10,652	18.69	9.16	8.20	10.20	413	17	24.29	9.55	7.88	10.56
Kincardine	230,074	17,116	13.44	14.46	10.82	14.31	..	..	..	16.00	10.00	†14.38
Kinross	36,990	2,623	14.10	18.22	14.10	14.57	8	1	8.00	8.00	6.00	—
Kirkcudbright	198,984	11,429	17.41	20.61	14.04	17.26	2,148	118	18.20	20.02	15.81	18.04
Lanark	168,142	9,349	17.99	19.33	21.78	19.66	240	26	9.23	10.89	14.54	12.70
Linlithgow	62,185	3,509	17.71	20.99	15.18	17.00	187	14	13.36	16.55	16.14	15.55
Nairn	60,899	4,256	14.31	17.82	15.52	15.80	105	7	15.00	15.85	14.50	15.01
Orkney	95,008	14,498	6.55	11.04	8.14	9.56	*..	3	*..	..	..	—
Peebles	81,866	3,880	21.10	19.69	18.66	17.94	20	1	20.00	19.40	14.00	‡15.93
Perth	476,602	27,549	17.30	20.02	18.67	15.61	655	43	15.23	10.15	8.27	11.11
Renfrew	37,317	2,105	17.73	16.85	18 92	16.02	476	35	13.60	13.92	12.88	14.78
Ross and Cromarty	107,325	15,506	6.92	8.09	7.76	9.15	727	91	7.99	9.55	6.97	10.14
Roxburgh	327,739	20,515	15.98	17.98	18.52	15.99	884	51	17.33	18.68	12.44	17.60
Selkirk	42,347	2,491	17.00	17.00	15.00	18.78	..	..	..	14.00	12.00	—
Shetland	17,842	1,475	12.10	12.28	10.14	14.57	..	..	..	..	..	—
Stirling	72,221	4,187	17.25	14.28	10.91	18.50	156	11	14.18	14.00	11.80	18.24
Sutherland	25,547	3,093	8.26	7.17	6.64	8.21	..	..	..	..	6.00	—
Wigtown	279,724	14,610	19.15	18.44	16.60	16.45	6,024	325	18.54	17.87	17.65	18.42
Total	7,162,794	445,318	16.08	17.25	13.26	15.11	45,109	2,382	18.94	16.28	14.84	17.28

TABLE No. 5.—ESTIMATED TOTAL PRODUCE OF HAY from Clover, Sainfoin, and Grasses under Rotation, also Total from Permanent Pasture, ACREAGE, and Estimated YIELD per Acre in the Year 1905, compared with the Estimated YIELD for the Years 1904 and 1903, and the AVERAGE of the Ten Years, 1895-1904, in each COUNTY of SCOTLAND.

COUNTIES.	FROM CLOVER, SAINFOIN, AND GRASSES.						FROM PERMANENT PASTURE.					
	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.	Estimated Total Produce in 1905.	Acreage in 1905.	Estimated Yield per Acre.			Average of the Ten Years, 1895-1904.
			1905.	1904.	1903.				1905.	1904.	1903.	
	Cwt.	Acres.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Acres.	Cwt.	Cwt.	Cwt.	Cwt.
Aberdeen	70,283	51,366	27.35	26.21	26.33	26.99	4,261	4,006	21.27	17.67	12.77	18.35
Argyll	16,852	11,340	29.72	30.41	25.85	29.13	25,074	16,244	30.87	31.19	25.77	28.80
Ayr	54,325	32,919	33.00	35.41	30.33	33.40	39,173	17,958	43.63	42.59	35.18	37.24
Banff	16,166	10,960	29.50	22.08	19.15	25.60	251	291	17.23	19.32	20.84	19.44
Berwick	16,549	10,439	31.71	34.66	31.57	31.07	1,221	1,408	17.34	30.45	29.94	25.97
Bute	4,466	2,216	40.31	35.08	31.59	33.88	1,520	738	41.20	33.78	27.80	28.54
Caithness	10,634	9,636	22.07	9.21	10.95	17.40	1,838	2,532	14.52	3.84	3.86	7.32
Clackmannan	3,704	1,919	38.60	39.46	37.75	36.21	860	545	31.55	34.25	32.90	28.14
Dumbarton	10,615	6,880	30.86	38.22	32.80	37.48	3,014	1,885	31.98	39.88	37.31	40.29
Dumfries	20,297	19,347	20.98	25.69	20.23	26.02	24,816	18,745	26.48	31.01	27.42	31.12
Edinburgh	36,117	13,585	53.17	67.80	54.02	58.76	5,151	2,995	34.40	35.25	31.69	33.47
Elgin or Moray	8,092	5,910	27.38	24.40	24.07	25.70	516	485	21.29	19.92	19.66	21.19
Fife	44,773	28,615	31.29	40.89	29.41	31.51	4,758	3,753	25.36	33.75	27.85	26.99
Forfar	37,965	21,861	34.73	35.87	31.70	37.02	2,250	1,946	23.12	24.28	23.89	22.95
Haddington	29,023	11,062	52.47	60.41	51.90	54.30	1,416	916	30.93	32.12	26.40	29.33
Inverness	14,566	11,513	25.30	17.81	18.06	19.94	8,046	6,471	24.87	21.68	20.96	19.21
Kincardine	17,662	13,649	25.88	25.10	25.33	27.89	374	507	14.75	14.38	14.78	18.08
Kinross	4,654	2,877	32.35	34.59	24.24	28.30	1,379	851	32.41	36.68	27.77	32.01
Kirkcudbright	13,033	9,460	27.55	29.20	22.34	26.89	16,894	13,374	25.26	27.87	24.52	25.12
Lanark	61,544	37,502	32.82	39.54	34.81	36.30	12,325	8,851	27.85	37.47	34.92	35.21
Linlithgow	21,454	7,425	57.79	65.59	52.36	54.46	2,254	1,348	33.44	5.91	31.12	27.85
Nairn	1,702	2,035	16.72	18.18	16.19	19.92	38	59	13.00	13.90	13.48	15.81
Orkney	9,003	8,633	20.86	17.81	17.85	19.88	554	1,067	10.38	8.50	8.36	9.98
Peebles	3,904	2,431	32.12	42.67	33.27	32.71	1,599	974	32.82	32.65	34.05	30.77
Perth	52,408	32,441	32.31	31.88	27.04	30.11	14,636	11,176	26.19	25.09	22.17	28.37
Renfrew	28,915	13,983	41.36	40.70	32.94	38.10	11,382	5,435	41.89	48.50	42.90	46.14
Ross and Cromarty	10,892	14,638	14.88	15.16	16.14	17.84	727	2,651	5.49	6.34	7.11	7.74
Roxburgh	11,989	8,394	28.57	34.57	29.77	31.71	8,406	6,162	27.28	31.51	28.87	27.67
Selkirk	1,537	1,025	30.00	35.00	26.00	29.27	2,233	1,718	26.00	32.00	28.00	25.88
Shetland	687	1,016	13.51	13.48	16.70	18.31	1,149	1,629	14.11	15.11	15.09	15.55
Stirling	22,322	13,815	32.32	37.19	34.61	35.16	6,331	4,928	25.70	33.96	34.06	32.97
Sutherland	3,286	4,178	15.73	13.58	14.71	16.62	1,017	1,502	13.54	5.66	6.07	7.98
Wigtown	7,621	4,616	33.02	35.07	31.87	33.20	4,445	4,384	20.28	21.98	18.66	19.94
Total	666,985	427,686	31.19	33.31	28.94	31.70	209,908	147,534*	28.46	30.93	27.46	28.86

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* This Acreage is less than that stated in some other Tables by 808 acres, which were originally returned for the county of Orkney as "Grass for Hay," but were subsequently stated to have been used for grazing.

TABLE No. 6.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN EACH COUNTY OF SCOTLAND AS RETURNED ON JUNE 4, 1906.

COUNTIES.	HORSES (including Ponies).				CATTLE.				SHEEP.			PIGS.
	Used solely for Agriculture, &c.*	Unbroken Horses.		Total.	Cows and Heifers in Milk or in Calf.	Other Cattle.		Total.	1 Year Old and above.	Under 1 Year.	Total.	
		1 Year and above.	Under 1 Year.			2 Years and above.	Under 2 Years.					
1. Aberdeen	23,341	6,178	2,816	32,335	42,148	43,916	82,819	168,883	120,097	92,807	212,904	12,317
2. Argyll	4,539	1,349	508	6,396	22,729	13,185	26,034	61,948	559,982	274,247	834,229	4,203
3. Ayr	7,487	1,605	596	9,688	51,414	13,718	34,714	99,846	217,369	142,747	360,116	12,289
4. Banff	6,704	1,709	717	9,130	12,814	6,013	23,505	42,332	35,664	26,305	61,969	3,274
5. Berwick	4,354	813	221	5,388	3,229	5,465	9,066	17,760	158,325	159,781	318,106	3,430
6. Bute	974	200	46	1,220	3,782	1,581	4,274	9,637	27,441	14,586	42,027	646
7. Caithness	4,481	923	379	5,783	7,296	2,843	11,322	21,461	74,411	49,786	124,197	1,498
8. Clackmannan	535	150	54	739	1,374	1,035	1,381	3,790	8,824	6,134	14,958	909
9. Dumbarton	1,484	276	94	1,854	8,595	2,275	3,489	14,359	44,401	26,529	70,930	1,145
10. Dumfries	6,013	1,589	477	8,079	21,503	13,705	29,921	65,129	337,691	222,908	560,599	8,802
11. Edinburgh	3,884	553	208	4,645	11,894	3,704	4,622	20,220	105,860	76,464	182,324	5,231
12. Elgin	3,812	898	370	5,080	6,444	3,827	11,715	21,986	33,805	22,249	56,054	2,681
13. Fife	7,840	1,911	593	10,344	12,175	18,479	18,589	40,543	56,696	51,218	107,914	4,910
14. Forfar	8,421	1,298	488	10,207	12,600	19,821	20,858	52,609	96,784	72,964	169,748	7,105
15. Haddington	3,262	313	114	3,689	2,098	4,584	3,053	9,735	71,135	54,117	125,252	1,754
16. Inverness	7,177	1,552	898	9,627	21,685	6,698	21,392	49,775	361,535	171,345	532,880	2,328
17. Kincardine	4,072	693	280	5,045	6,726	6,346	11,502	24,574	25,078	20,291	45,369	2,073
18. Kinross	827	268	91	1,186	1,436	1,227	4,272	6,935	18,890	14,345	33,235	599
19. Kirkcudbright	4,037	1,199	457	5,693	16,819	13,017	20,657	50,493	235,983	156,949	392,932	8,344
20. Lanark	6,911	1,483	572	8,966	39,710	11,971	21,826	73,507	149,937	89,569	239,506	6,809
21. Linlithgow	1,681	421	166	2,268	4,957	3,216	4,027	12,200	15,467	7,202	22,669	1,206
22. Nairn	1,045	306	85	1,436	1,996	886	3,289	6,171	12,514	6,363	18,877	[illegible]
23. Orkney	5,353	1,170	688	7,211	9,858	3,968	15,158	28,984	17,304	16,853	34,157	2,367
24. Shetland	3,481	1,542	1,231	6,254	3,042	8,634	5,910	17,586	83,458	47,242	130,700	1,464
25. Peebles	883	180	59	1,122	2,177	1,523	3,589	7,289	114,522	84,162	198,684	539
26. Perth	10,330	2,133	792	13,255	17,891	20,402	38,527	76,820	424,431	231,378	655,809	7,440
27. Renfrew	2,677	581	172	3,430	17,451	2,772	5,367	25,590	23,066	15,662	38,728	1,139
28. Ross and Cromarty	6,088	1,430	659	8,177	17,729	7,668	18,050	43,447	172,014	89,988	262,002	4,029
29. Roxburgh	3,701	447	94	4,242	4,684	4,988	8,957	18,729	287,283	242,977	530,260	2,730
30. Selkirk	612	70	10	692	1,264	528	1,780	3,572	103,528	79,881	183,409	372
31. Stirling	3,471	943	323	4,737	12,212	8,483	12,104	32,799	73,889	46,866	120,755	1,903
32. Sutherland	2,158	311	150	2,619	5,436	1,776	4,464	11,676	132,521	62,932	195,453	673
33. Wigtown	4,286	1,348	511	6,145	24,708	10,671	17,115	52,494	71,023	46,504	117,527	11,774
Total	155,921	35,842	14,419	206,182	434,476	264,275	503,528	1,202,279	4,271,017	2,723,821	6,994,838	130,199

* Including Mares kept for breeding.

TABLE No. 7.—QUANTITY AND VALUE OF CORN, &c., imported into the United Kingdom in the undermentioned Years.

[From Trade and Navigation Returns.]

	Quantities.			Values.		
	1904.	**1905.**	**1906.**	**1904.**	**1905.**	**1906**
Wheat from—	Cwt.	Cwt.	Cwt.	£	£	£
Russia . . .	23,529,500	24,703,200	15,017,500	8,444,134	9,142,146	5,224,904
Germany . . .	251,000	300,000	71,800	91,351	111,745	23,106
Turkey . . .	431,200	244,800	242,100	127,263	80,217	81,577
Roumania . . .	1,491,800	2,082,200	3,780,900	512,001	752,916	1,276,085
United States—						
Atlantic Ports .	4,948,400	5,082,000	17,163,300	1,763,362	1,881,497	6,120,781
Pacific Ports .	2,103,200	1,552,700	5,327,600	754,063	572,030	1,919,509
Chile	915,400	162,800	800	327,803	57,672	285
Argentine Republic .	21,440,400	23,236,400	19,176,500	7,522,331	8,282,388	6,678,413
British East Indies .	25,493,000	22,807,422	12,636,200	8,498,520	7,882,978	4,327.631
Australia . . .	10,272,600	10,064,700	7,785,100	3,754,402	3,800,270	2,829,720
New Zealand . .	358,100	339,000	79,400	123,633	119,160	29,789
Canada . . .	6,195,300	6,522,030	11,309,700	2,229,791	2,412,137	4,041,443
Other countries . .	352,600	524,600	376,300	118,253	184,775	122,942
Total . .	97,782,500	97,622,752	92,967,200	34,266,416	35,279,931	32,676 185
Wheat and flour, from—						
Germany . . .	264,740	479,300	190,600	142,710	262,610	97,856
Belgium . . .	540,810	765,800	262,900	264,867	374,907	127,622
France . . .	1,486,920	1,034,503	560,500	647,426	472,386	249,682
Austria-Hungary .	733,294	622,885	627,630	430,253	359,381	341,890
United States . .	8,252,602	5,685,418	9,809,870	4,095,749	2,896,317	4,744,970
Argentine Republic .	288,900	616,800	148,700	126,816	286,759	53,689
Australia . . .	786,290	1,019,500	540,300	402,224	507,745	253,057
Canada . . .	2,045,767	1,330,100	1,810,500	1,014,124	653,804	870,707
Other countries . .	323,570	400,457	239,300	134,431	200,936	77,710
Total . .	14,722,893	11,954,763	14,190,300	7,258,600	6,044,845	6,817,213
Barley	27,152,300	21,426,900	19,934,500	7,161,600	6,017,350	5,677,587
Oats	14,097,700	17,095,463	15,286,500	3,726,121	4,713,265	4,532,160
Peas	2,179,506	2,015,876	1,453,420	767,097	725,104	614,649
Beans	1,862,686	1,225,050	634,280	577,094	414,227	231,758
Indian corn or maize .	42,897,880	42,101,210	48,685,200	10,247,134	11,034,748	11,972,686
Indian corn meal . .	316,660	459,188	616,200	100,940	144,829	195,302
Oatmeal	648,770	633,199	661,809	456,593	463,293	495,980
Offals of corn and grain, including rice-meal	3,136,560	3,129,810	4,084,716	591,242	638,915	901,741
Rice, exclusive of rice-meal—						
From Brit. East Indies	4,372,777	4,078,406	2,891,847	1,597,399	1,586,587	1,225,396
From other countries	1,395,262	1,529,832	2,387,307	671,945	739,855	1,071,230
Other kinds of grain and corn	1,564,170	1,595,214	1,626,330	475,304	532,641	558,254
Other kinds of meal and flour	96,264	117,220	120,022	38,590	48,816	51,306
Total of corn, &c.	..	..	..	67,936,074	68,384,406	67,021.447

TABLE No. 8.—RETURN OF THE AVERAGE PRICES OF WOOL in the Years 1904 and 1905.

Years.	Australian.	South African.	English Fleeces.
	Per lb.	Per lb.	Per lb.
	s. *d.*	*s.* *d.*	*s.* *d.* *s.* *d.*
1904	0 10	0 7⅝	0 8⅞ „ 0 11¾
1905	0 10¼	0 7⅝	0 11⅞ „ 0 13¼

TABLE No. 9.—QUANTITIES AND VALUES OF CORN, MEAT, FOOD PRODUCTS, in the Year 1906, with the

[*From Trade and*

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
ANIMALS, LIVING:—	No.	No.	No.	£	£	£
Cattle	549,532	565,139	561,215	9,736,436	9,665,806	9,732,180
Sheep and lambs . . .	382,240	183,084	108,359	591,984	278,753	156,947
Swine	..	150	..	..	300	..
Total value .	..	..	..	10,328,420	9,944,859	9,889,127
GRAIN, FLOUR, &c.—	Cwt.	Cwt.	Cwt.	£	£	£
Wheat	97,782,500	97,622,752	92,967,200	34,266,416	35,279,931	32,676,185
Wheat meal and flour . .	14,722,893	11,954,763	14,190,300	7,258,600	6,044,845	6,817,213
Barley	27,152,300	21,426,000	19,934,500	7,161,600	6,017,350	5,677,587
Oats	14,097,700	17,095,463	15,286,500	3,726,120	4,713,265	4,532,160
Peas	2,179,506	2,015,876	1,453,420	767,097	725,104	614,649
Beans	1,862,686	1,225,050	684,280	577,094	414,227	231,758
Maize or Indian corn . .	42,897,880	42,101,210	48,685,200	10,247,134	11,034,748	11,972,686
Maize-meal	316,660	459,188	616,200	100,940	144,829	195,302
Oatmeal	648,770	633,199	661,309	456,593	463,293	495,980
Offals of corn and grain, including rice-meal	3,136,560	3,129,810	4,084,716	591,242	638,915	901,741
Rice, exclusive of rice-meal—						
From British East Indies	4,372,777	4,078,406	2,891,847	1,597,399	1,586,587	1,225,396
From other countries .	1,395,262	1,529,832	5,608,238	671,945	739,855	1,071,230
Other kinds of grain & corn	1,564,170	1,595,214	1,626,330	475,304	532,641	558,254
Other kinds of meal and flour	96,264	117,220	120,023	38,590	48,816	51,306
Total value .	..	..	..	67,936,074	68,384,406	67,021,447
MEAT:—	Cwt.	Cwt.	Cwt.	£	£	£
Beef, salted	144,304	142,806	161,363	187,288	202,307	217,947
" fresh	4,350,031	5,037,521	5,529,129	8,058,341	8,931,593	9,793,670
Mutton, fresh . . .	3,494,782	3,811,069	4,088,689	6,861,531	7,336,490	7,655,543
Bacon	5,452,311	5,498,960	5,542,622	12,832,142	12,774,855	14,644,095
Hams	1,244,003	1,318,302	1,302,751	3,104,999	3,118,372	3,491,594
Pork, salted (not bacon or hams)	243,842	205,965	206,056	294,080	252,606	266,800
Pork, fresh	610,485	505,633	492,171	1,378,467	1,162,870	1,130,950
Meat, unenumerated—salted or fresh	631,012	670,144	652,363	1,164,442	1,225,692	1,145,466
Meat preserved otherwise than by salting	813,018	833,029	487,422	2,458,591	2,647,195	1,822,671
Rabbits (dead) . . .	533,698	656,078	803,556	780,737	835,929	1,000,786
Total of dead meat .	17,517,486	18,079,507	19,266,122	37,120,618	38,487,409	41,169,522
DAIRY PRODUCE:—	Cwt.	Cwt.	Cwt.	£	£	£
Butter	4,241,005	4,147,866	4,338,383	21,117,162	21,586,622	23,466,252
Margarine	960,278	1,088,259	1,101,962	2,494,467	2,785,736	2,733,795
Cheese	2,554,297	2,442,682	2,638,776	5,843,770	6,339,811	7,607,641
Total .	7,755,580	7,678,807	8,079,121	29,455,399	30,662,169	33,807,688

AND ARTICLES AFFECTING AGRICULTURE, imported into the United Kingdom Corresponding Figures for 1904 and 1905.

Navigation Returns.]

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
POULTRY (alive or dead)	..	..	..	£ 1,089,145	£ 905,791	£ 869,117
GAME (alive or dead)	..	..	..	128,132	93,689	116,340
Eggs	Gt. Hunds. 19,942,594	Gt. Hunds. 18,814,293	Gt. Hunds. 18,874,109	6,730,574	6,812,486	7,098,137
Total value .	..	..	..	7,947,851	7,811,916	8,083,594
FRUIT, VEGETABLES, &c.:—						
Apples	Cwt. 3,771,781	Cwt. 3,494,660	Cwt. 2,808,732	£ 2,118,294	£ 2,065,193	£ 1,753,577
Cherries	260,724	186,682	190,874	319,824	253,042	246,383
Plums	493,707	480,211	891,513	526,438	524,673	759,082
Pears	535,614	417,919	576,220	503,573	407,817	571,722
Grapes	853,572	700,050	690,371	827,634	761,632	667,969
Oranges	5,853,254	5,068,526	5,231,264	2,198,146	1,949,496	2,183,968
Lemons	989,296	837,028	849,985	408,500	419,049	440,406
Unenumerated . . .	654,765	502,097	504,345	372,575	354,143	388,598
Onions	Bushels. 8,292,136	Bushels. 7,587,025	Bushels. 8,310,534	1,076,472	1,094,802	953,615
Potatoes	Cwt. 9,993,965	Cwt. 3,664,290	Cwt. 3,816,373	2,437,971	1,404,607	1,332,027
Vegetables, unenumerated (raw)	..	..	..	457,491	419,752	404,870
Hops	313,667	108,953	232,619	1,839,854	456,280	852,476
Total value .	..	..	..	13,081,772	10,110,486	10,554,688
OTHER ARTICLES:—						
Lard	Cwt. 1,830,837	Cwt. 2,012,305	Cwt. 2,049,367	£ 3,342,389	£ 3,692,573	£ 4,361,399
Wool, sheep and lambs' .	Lb. 561,677,833	Lb. 615,708,827	Lb. 639,553,059	20,366,030	23,821,825	27,154,486
Wood and timber—	Loads.	Loads.	Loads.			
Hewn (pit-props or pit-wood)	2,332,577	2,120,333	2,451,669	2,485,113	2,237,014	2,713,004
Sawn or split, planed or dressed	6,066,236	5,986,526	6,692,260	15,505,799	15,255,330	18,533,958
Staves	132,176	119,182	139,041	527,696	553,092	632,568
Oilseed-cake . . .	Tons. 371,809	Tons. 357,580	Tons. 360,188	2,128,817	2,206,165	2,362,471
Seeds—						
Clover and grass . .	Cwt. 426,475	Cwt. 316,043	Cwt. 300,939	869,838	651,576	615,920
Cotton	Tons. 468,653	Tons. 568,928	Tons. 624,767	2,537,499	2,973,520	3,716,567
Flax or linseed . .	Qrs. 2,785,983	Qrs. 1,924,008	Qrs. 1,538,100	4,502,064	3,541,333	3,274,988
Rape	309,325	181,326	118,140	386,420	286,073	284,639
Bones (whether burnt or not)	Tons. 35,103	Tons. 47,346	Tons. 42,607	153,373	209,918	194,638
Guano	24,276	29,223	24,906	117,753	138,906	127,719
Cotton, raw	Cwt. 17,454,897	Cwt. 19,674,960	Cwt. 17,923,049	54,697,788	52,182,656	55,749,640
Hemp	Tons. 132,425	Tons. 121,722	Tons. 117,325	4,121,755	3,755,587	3,712,167
Flax	74,917	90,098	87,365	3,185,475	3,581,808	3,558,567
Hides untanned—						
Dry	Cwt. 325,268	Cwt. 351,762	Cwt. 484,191	940,604	1,078,014	1,603,601
Wet	449,580	508,467	583,321	1,106,360	1,322,574	1,493,009
Petroleum	Gallons. 302,131,143	Gallons. 300,110,335	Gallons. 299,251,714	5,839,033	5,423,124	5,853,409

TABLE No. 10.—QUANTITY AND VALUE OF DEAD MEAT imported into the United Kingdom in the undermentioned Years.

[*From Trade and Navigation Returns.*]

	Quantities.			Values.		
	1904.	1905.	1906.	1904.	1905.	1906.
	Cwt.	Cwt.	Cwt.	£	£	£
BACON, from—						
Denmark	1,723,884	1,471,687	1,463,880	4,532,420	3,978,317	4,824,055
Canada	829,883	1,191,390	1,190,524	1,865,159	2,751,714	3,135,391
United States	2,806,108	2,755,233	2,775,919	6,209,009	5,828,392	6,859,061
Other countries	92,436	80,650	112,299	225,554	216,432	325,588
Total	5,452,311	5,498,960	5,542,622	12,832,142	12,774,855	14,644,095
BEEF (salted), from—						
United States	135,280	135,277	146,163	173,098	191,115	197,238
Other countries	9,024	7,529	15,200	14,190	11,192	20,709
Total	144,304	142,806	161,363	187,288	202,307	217,947
BEEF (fresh), from—						
United States	2,395,536	2,232,206	2,426,644	5,180,286	4,834,611	5,235,663
Argentine Republic	1,675,271	2,580,152	2,795,913	2,482,704	3,751,780	4,136,819
Australia	76,345	19,025	38,716	105,779	30,748	58,204
New Zealand	175,012	145,338	236,567	281,046	208,992	315,988
Other countries	27,567	60,800	31,269	58,526	105,462	46,996
Total	4,350,031	5,037,521	5,529,129	8,058,341	8,931,593	9,793,670
HAMS, from—						
Canada	196,732	292,173	254,494	485,527	698,463	674,469
United States	1,042,659	1,022,855	1,045,718	2,606,129	2,409,993	2,808,823
Other countries	4,612	3,274	2,539	13,343	9,916	8,302
Total	1,244,003	1,318,302	1,302,751	3,104,999	3,118,372	3,491,594
MEAT (unenumerated, salted or fresh), from—						
Holland	265,895	253,103	222,280	584,725	573,338	502,027
United States	132,539	166,088	189,328	210,624	255,921	282,128
Other countries	233,078	250,953	240,755	369,093	396,433	361,311
Total	681,012	670,144	652,363	1,164,442	1,225,692	1,145,466
MEAT, preserved otherwise than by salting—						
Beef	556,918	598,030	296,301	1,611,693	1,789,399	1,103,695
Mutton	35,877	30,111	48,443	85,458	77,112	125,954
Other sorts	220,223	204,888	142,678	761,440	780,684	593,022
Total	813,018	833,029	487,422	2,458,591	2,647,195	1,822,671
MUTTON (fresh), from—						
Netherlands	265,702	235,172	234,926	605,225	539,672	536,100
Australia	163,014	505,413	616,870	324,239	988,049	1,148,460
New Zealand	1,626,893	1,524,981	1,748,188	3,391,025	3,164,712	3,417,794
Argentine Republic	1,422,397	1,462,537	1,433,097	2,491,210	2,458,915	2,440,996
Other countries	16,776	82,966	55,608	49,832	185,142	112,193
Total	3,494,782	3,811,069	4,088,689	6,861,581	7,336,490	7,655,543
PORK (salted, not Bacon or Hams), from—						
United States	76,977	72,528	67,775	119,423	111,082	116,480
Other countries	166,865	133,437	138,281	174,657	141,524	150,320
Total	243,842	205,965	206,056	294,080	252,606	266,800
PORK (fresh), from—						
Netherlands	448,154	306,379	318,296	1,005,450	713,523	739,588
Belgium	32,798	39,344	13,225	83,061	97,439	32,744
United States	119,259	135,233	120,734	262,450	292,390	268,804
Other countries	10,274	24,677	39,916	27,506	59,018	89,814
Total	610,485	505,633	492,171	1,378,467	1,162,370	1,130,950
RABBITS (dead), from—						
Belgium	77,407	69,624	66,811	224,791	199,777	185,207
Australia	322,833	482,697	644,774	357,710	485,935	684,818
New Zealand	107,147	80,289	73,207	121,799	82,496	76,354
Other countries	26,311	23,468	18,764	76,437	67,721	54,407
Total	533,698	656,078	803,556	780,737	835,929	1,000,786
Total of dead meat	17,517,486	18,679,507	19,266,122	37,120,618	38,487,409	41,169,522

TABLE No 11.—QUANTITIES AND VALUES OF BUTTER, MARGARINE, CHEESE, AND EGGS imported into the United Kingdom in each Year from 1904 to 1906 inclusive

[*From Trade and Navigation Returns.*]

	Quantities			Values		
	1904.	**1905.**	**1906**	**1904.**	**1905**	**1906.**
BUTTER from—	Cwt	Cwt.	Cwt	£	£	£
Russia . .	404,717	461,140	606,549	1,817,736	2,246,503	2,918,124
Sweden . .	206,791	188,209	182,803	1,062,353	1,021,603	1,036,638
Denmark .	1,708,619	1,630,363	1,675,761	9,003,089	8,919,766	9,636,862
Germany .	4,080	5,372	10,701	20,547	27,169	56,559
Netherlands .	252,262	209,897	195,366	1,225,768	1,047,690	993,396
France . .	371,061	348,442	319,401	1,961,094	1,860,545	1,775,601
New S Wales	159,622	168,531	180,655	747,876	848,022	957,702
Queensland .	59,475	54,188	77,982	270,231	269,077	404,980
Victoria . .	255,716	227,574	287,190	1,212,660	1,144,141	1,568,057
New Zealand .	294,982	300,418	311,672	1,394,455	1,467,628	1,626,997
Canada . .	268,607	292,117	192,093	1,194,823	1,428,494	982,064
United States	68,754	84,874	157,312	294,584	401,916	743,197
Other countries	186,319	176,741	140,898	911,946	904,068	761,075
Total .	4,241,005	4,147,866	4,338,383	21,117,162	21,586,622	23,466,252
MARGARINE from—	Cwt	Cwt	Cwt	£	£	£
Norway . .	5,667	6,731	5,291	14,081	16,153	12,504
Netherlands .	927,980	1,051,630	1,058,623	2,390,243	2,617,743	2,601,344
France . .	23,580	27,324	29,422	82,305	95,259	102,500
Other countries	3,051	2,574	8,626	7,838	6,581	17,447
Total .	960,278	1,088,259	1,101,962	2,494,467	2,735,736	2,733,795
CHEESE from—	Cwt.	Cwt	Cwt	£	£	£
Netherlands .	233,601	214,033	229,343	542 530	498,994	545,947
France .	44,268	48,884	43,244	138,289	158,224	140,702
Australia	350	.		831		
New Zealand .	84,947	78,626	126,216	217 286	203,344	370,666
Canada .	1,900,556	1,858,767	1,925,835	4,234,790	4,804 172	5,634,288
United States	224,830	175,256	233,425	503,312	445,003	656,705
Other countries	65,745	67,116	80,713	206,732	230,074	259,333
Total .	2,554,297	2,442,682	2,638,776	5,843,770	6,339,811	7,607,641
EGGS from—	Great Hundreds	Great Hundreds	Great Hundreds	£	£	£
Russia . .	7,032,906	7,622,393	7,132,928	2,042,520	2,426,029	2,344,256
Denmark .	3,602,326	3,858,135	3,823,942	1,461,459	1,634,288	1,701,291
Germany .	3,554,232	2,175 721	2,644,242	1,191,161	764,966	957,905
Belgium . .	2,517,073	2 152 953	2,444,746	837,120	830,598	992,103
France . .	1,698,614	1,565,572	1,491,269	710,057	660,369	623,119
Canada . .	317,722	260,140	231,719	129,631	114,557	106,393
Other countries	1,219,721	1,179,379	1,105,263	358,626	381,629	373,070
Total .	19,942,594	18,814,293	18,874,109	6,730,574	6,812,436	7,098,137

TABLE No. 12.—NUMBER OF LIVE STOCK IN 1903, 1904, AND 1905, returned as entering the Markets at the Places scheduled under the Markets and Fairs (Weighing of Cattle) Act, 1891.

[*From Journal of the Board of Agriculture.*]

	CATTLE.			SHEEP.			SWINE.		
	1903.	1904.	1905.	1903.	1904.	1905.	1903.	1904.	1905.
Aberdeen .	47,757	53,916	62,115	175,722	177,827	166,776	14,344	14,256	13,964
Dundee .	17,896	18,716	21,271	25,748	25,131	24,727	3,223	3,338	3,974
Edinburgh	71,926	72,078	77,949	269,310	269,614	237,438	10,054	8,309	7,370
Falkirk .	11,383	11,142	..	10,396	9,946	..	120	126	..
Glasgow .	60,550	57,000	64,832	348,496	327,302	330,369	5,450	5,836	3,491
Perth . .	55,642	60,208	115,688	247,830	257,784	465,587	13,921	15,175	13,280
	265,154	273,060	341,855	1,077,502	1,067,604	1,224,897	47,112	47,130	42,079

TABLE No. 13.—AVERAGE PRICES OF FAT CATTLE PER CWT. (LIVE WEIGHT) at the undermentioned Places in each Year from 1898 to 1905, together with the average Prices for Scotland, England, and Great Britain, compiled from the Returns received under the Markets and Fairs (Weighing of Cattle) Act, 1891.

	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Aberdeen . . .	31 0	32 10	34 3	32 10	34 9	33 4	32 8	32 6
Dundee . . .	31 10	33 0	34 7	33 6	34 11	33 3	32 7	32 0
Edinburgh . .	32 9	34 9	36 5	35 3	37 4	35 5	34 10	33 10
Glasgow . . .	32 11	34 4	35 11	35 5	37 10	36 3	35 8	32 6
Perth . . .	32 9	34 7	37 7	36 9	37 4	35 1	33 3	34 4
SCOTLAND . . .	32 0	33 8	35 3	34 1	36 2	34 6	33 9	33 0
ENGLAND . . .	31 6	33 4	34 11	33 9	35 5	34 1	33 1	32 8
GREAT BRITAIN .	31 10	33 7	35 2	34 0	35 11	34 4	33 7	32 11

TABLE No. 14.—NUMBER AND VALUE OF LIVE CATTLE, SHEEP, AND SWINE imported into the United Kingdom in the undermentioned Years. [*From Trade and Navigation Returns.*]

	Number.			Value.		
	1904.	**1905.**	**1906.**	**1904.**	**1905.**	**1906.**
CATTLE, from—				£	£	£
Channel Islands . .	1,684	1,515	1,639	28,921	25,517	29,330
Canada	146,599	148,718	160,689	2,547,453	2,491,150	2,765,440
United States . .	401,249	414,906	398,887	7,160,062	7,149,139	6,987,410
Argentine Republic .	..	..	..	..	..	..
Other countries . .	..	..	..	..	..	..
Total . .	549,532	565,139	561,215	9,736,436	9,665,806	9,782,180
SHEEP AND LAMBS, from—						
Canada	77,835	28,240	14,296	124,799	45,580	22,228
United States . .	294,804	150,095	84,184	456,630	226,628	127,401
Argentine Republic .	..	..	..	..	..	..
Other countries . .	9,601	4,749	4879	10,555	6,545	7318
Total . . .	382,240	183,084	103,359	591,984	278,753	156,947
SWINE (not separately enumerated)	..	150	..	..	300	..
TOTAL VALUE OF ANIMALS LIVING	..	..	..	10,328,420	9,944,859	9,889,127

TABLE No. 15.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS imported into Great Britain from Ireland in each of the Years 1900-1906.

	1900.	**1901.**	**1902.**	**1903.**	**1904.**	**1905.**	**1906.**
HORSES:—							
Stallions . .	103	194	222	265	235	202	257
Mares . .	16,320	11,467	11,143	12,867	12,909	14,192	15,316
Geldings . .	19,183	13,946	13,895	14,587	14,356	16,329	18,243
Total . .	35,606	25,607	25,260	27,719	27,500	30,723	33,816
CATTLE: Oxen, Bulls, and Cows:—							
Fat . . .	275,450	261,690	306,892	246,887	232,186	224,943	240,566
Store . . .	427,891	344,954	556,554	556,506	470,361	455,667	473,425
Other cattle .	7,442	6,269	10,634	6,724	6,896	6,205	5,897
Calves . .	34,736	29,725	85,161	87,528	62,920	62,316	55,486
Total . .	745,519	642,638	959,241	897,645	772,363	749,131	775,374
SHEEP:—							
Sheep . . .	478,081	484,516	599,319	444,762	372,159	350,953	293,174
Lambs . .	384,182	358,809	456,483	380,917	367,107	349,673	364,239
Total . .	862,263	843,325	1,055,802	825,679	739,266	700,626	657,413
PIGS:—							
Fat . . .	673,847	559,232	603,108	541,601	478,922	362,791	409,510
Store . . .	41,355	36,897	34,864	28,319	26,158	1,032	19,920
Total . .	715,202	596,129	637,972	569,920	505,080	363,823	429,430

EDINBURGH CORN-MARKET GRAIN TABLES for WHEAT, BARLEY, OATS, and BEANS, showing the Quantity offered for Sale, the Quantity Sold, the Highest, Lowest, and Average Prices; also the Bushel-weights of the Highest and Lowest Prices of each kind of Grain for every Market-day, likewise the Results for every Month, and the final Result for the year 1906.

WHEAT.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for			
						Highest Price.		Lowest Price.	
1906 Jan.	Imp. qr.	Imp. qr.	s. d.	s. d.	s d.	lb.	lb.	lb.	lb.
3	453	308	30 3	28 6	29 7		63		61
10	517	517	30 3	27 0	29 3		63		60
17	1,103	1,003	30 3	26 0	29 7		63		59
24	1,287	1,059	30 9	28 6	29 8		63		60¼
31	787	550	30 0	26 6	29 1	62	63		61
	4,147	3,527	30 3	27 6	29 6				
Feb.									
7	1,147	973	30 6	28 6	20 4		63		62
14	1,093	799	29 6	26 6	28 9	62	63		62
21	1,251	1,020	29 3	26 0	28 6		63		63
28	877	549	28 6	26 6	27 9		63		63
	4,368	3,341	29 2	27 8	28 8				
March									
7	570	483	29 0	25 0	27 10		63		60
14	527	487	29 6	22 6	28 1		65		56
21	515	485	29 3	27 0	28 3		63		62
28	207	207	29 6	26 0	28 11	63	63½		56
	1,819	1,662	29 5	25 10	28 2				
April									
4	351	351	30 3	27 0	29 1		63		59
11	204	169	30 3	28 6	29 10		63		62
18	1,056	1,036	31 3	29 0	30 3		63		63
25	988	988	30 6	27 0	30 2	63	63½		62
	2,599	2,544	30 8	28 9	30 0				
May									
2	1,696	1,486	32 0	28 0	30 4		65		62
9	1,978	1,843	31 3	26 6	30 4		65		56
16	2,003	2,003	31 0	28 9	30 2	63½	64		62½
23	1,439	1,229	31 0	28 9	30 3		64		61
30	706	550	31 3	30 0	30 7		64		63
	7,816	7,111	31 3	28 9	30 3				
June									
6	999	938	30 9	29 6	30 5	63	64		63
13	645	560	31 0	28 6	30 7	63	63½		63
20	855	843	31 3	30 0	30 10		63		63
27	563	471	31 6	30 0	30 10		63	62	63
	3,062	2,812	30 11	29 8	30 8				
July									
4	681	656	31 3	30 3	30 10		63		63
11	159	29	32 0	28 0	31 5		64¼		61¼
18	91	20	31 6	..	31 6		63		..
25	635	245	31 6	30 9	31 0		63		63
	1,566	950	31 6	30 4	30 11				

WHEAT—*continued.*

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for			
						Highest Price.		Lowest Price.	
1906 Aug.	Imp. qr.	Imp. qr.	*s.* *d.*	*s.* *d.*	*s.* *d.*	lb.	lb.	lb.	lb.
1	638	708	31 6	30 6	31 0		63		63
8	880	440	31 0	29 0	30 1		63		60½
15	560	240	30 6	26 0	30 1		63		60
22	469	250	31 0	29 6	30 2		63¾		62
29	523	170	30 9	29 6	30 1		63		63
	3,070	1,808	31 0	29 7	30 5				
Sept.									
5	161	..	..	..	..		..		..
12	183	72	30 6	25 0	26 6		64		60
19	414	88	27 6	25 0	26 1		63		61
26	743	506	29 6	21 0	25 9		63		55
	1,501	666	28 10	22 10	25 11				
Oct.									
3	735	480	29 0	24 0	26 9		63		60
10	921	592	29 0	25 0	26 6		63		61
17	910	412	29 0	24 0	26 11		63		61½
24	1,190	459	30 0	23 0	26 10		63		56
31	936	539	30 0	24 0	26 7		63	59½	60
	4,692	2,482	29 5	24 6	26 8				
Nov.									
7	855	392	30 0	25 6	27 0		63		60½
14	771	494	30 0	24 0	26 11		63		60½
21	831	508	30 0	24 6	26 9		63		58½
28	773	387	30 0	26 3	27 5		63		60
	3,230	1,781	30 0	25 1	27 0				
Dec.									
5	424	196	28 6	23 3	26 6		63		58½
12	543	224	29 0	23 6	27 1		63		55
19	655	515	27 6	24 6	26 8		63		62
26	521	435	28 0	25 0	26 11		63		60
	2,143	1,370	28 1	23 11	26 10				
Result for year	40,013	30,054	30 4	27 7	29 2				

BARLEY.

1906 Jan.									
3	1,530	923	29 0	23 6	26 10		56		49¾
10	1,436	837	30 0	24 0	27 1		57½		55
17	1,332	1,002	30 6	24 0	27 2		56		54
24	1,728	1,164	29 0	24 6	26 9		56½		56
31	1,103	668	29 6	23 0	27 1		56		50½
	7,129	4,594	29 5	23 11	27 0				
Feb.									
7	1,731	1,014	30 0	24 9	26 11		56		56
14	2,019	838	28 6	24 6	26 10		56		51½
21	1,594	589	30 0	24 0	26 10		56		54
28	1,189	622	28 6	24 0	26 5	55	56		55
	6,533	3,063	28 11	24 6	26 9				

BARLEY—*continued.*

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for			
						Highest Price.		Lowest Price.	
1906	Imp. qr.	Imp. qr.	s. d.	s. d.	s. d.	lb.	lb.	lb.	lb.
March									
7	1,828	627	30 6	25 6	27 9		56	55	56
14	1,098	511	30 0	24 6	26 11		56		55
21	862	385	32 0	25 6	27 1		56		54
28	566	331	30 10	25 6	26 6		56		55
	4,354	1,854	30 9	25 5	27 2				
April									
4	582	305	28 0	19 0	25 10		56		52½
11	286	85	26 6	26 0	26 3		56		56
18	459	161	26 0	22 0	25 0		56		54
25	302	151	26 6	24 6	25 10		56		52
	1,629	702	26 4	23 5	25 8				
May									
2	186	40	26 0	24 9	25 5		57		56
9	271	19	26 0	25 6	25 9		56		56
16	91	9	24 6	..	24 6		54		.
23	116	24	26 3	24 0	25 4		56		54
30	40	..	..	..	..		..		..
	704	92	25 10	24 9	25 4				
June									
6	20	20	25 6	..	25 6		56		..
13	75	..	..	..	..		..		..
20	70	..	..	..	..		..		..
27	..	..	..	..	..		..		..
	165	20	25 6	..	25 6				
July									
4	90	20	26 3	..	26 3		56		..
11	70	..	..	..	..		..		..
18	..	..	..	..	..		.		..
25	..	..	..	..	..		..		..
	160	20	26 3	..	26 3				
Aug.									
1	..	..	..	..	..		..		..
8	..	..	..	..	..		..		..
15	..	..	..	..	..		..		..
22	80	30	26 6	..	26 6		54		..
29	75	20	27 0	..	27 0		56		..
	155	50	26 8	..	26 8				
Sept.									
5	1,365	845	27 0	24 6	25 2		56	55	56
12	2,360	1,740	26 6	20 6	24 7		56		52¾
19	1,674	1,308	27 0	19 6	24 2		56		51½
26	2,954	2,309	26 6	22 0	24 8	54¾	56	53¼	53½
	8,353	6,202	26 6	22 5	24 7				
Oct.									
3	2,232	1,566	26 0	22 3	24 5		55		53½
10	2,211	1,288	26 0	22 0	24 5	55¾	56	53½	55
17	1,547	482	27 3	21 9	24 7		55½		52
24	1,253	1,158	27 6	22 0	24 8		56	50	53¼
31	1,266	1,121	26 6	23 1½	24 7		56		54
	8,509	5,615	26 6	22 3	24 6				

BARLEY—*continued.*

Date.	Quantity offered for Sale.	Quantity Sold	Highest Price.		Lowest Price.		Average Price.		Table of Bushel-weights for Highest Price.		Table of Bushel-weights for Lowest Price.	
1906	Imp. qr.	Imp. qr.	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*	lb.	lb.	lb.	lb.
Nov.												
7	1,018	838	27	3	22	9	25	5		56		53
14	1,361	998	27	0	23	6	24	11		56	55	55½
21	1,734	1,091	26	3	21	3	24	4		56		50
28	1,617	1,021	27	0	20	0	25	2		56		51½
	5,730	3,948	26	10	22	1	24	11				
Dec.												
5	1,800	1,486	27	0	22	6	24	10		56	53	55
12	1,766	1,305	27	0	21	6	25	0		55½		53¼
19	1,695	886	26	6	22	0	24	6		56		55
26	1,019	367	26	6	23	0	24	3		56		54
	6,280	4,044	26	9	22	5	24	9				
Result for year	49,701	30,204	27	3	23	0	25	5				

OATS.

Date.	Quantity offered for Sale.	Quantity Sold	Highest Price.		Lowest Price.		Average Price.		Table of Bushel-weights for Highest Price.		Table of Bushel-weights for Lowest Price.	
1906												
Jan.												
3	2,208	1,327	23	0	18	9	20	7		44½		42
10	3,197	2,243	23	3	18	3	20	4		44		42
17	2,761	1,472	23	6	19	0	20	7		44½		42
24	3,698	1,637	25	0	18	6	19	11		44½		42
31	2,923	1,522	26	0	17	0	20	5		44½		42
	14,787	8,201	24	3	18	8	20	4				
Feb.												
7	3,413	2,222	26	0	17	0	20	5		44½		42
14	3,638	2,041	26	6	17	0	20	1		44½		40
21	3,669	1,458	25	0	17	6	20	7		44½		42
28	4,165	1,623	24	0	18	6	20	7		44½		42
	14,885	7,844	25	6	17	10	20	5				
March												
7	3,007	1,727	25	6	18	3	21	6		45½		42
14	2,934	1,294	25	0	18	0	21	5		44½		42
21	2,019	1,086	23	9	18	0	20	10		44½		42
28	1,700	663	23	9	19	0	20	11		43		42
	9,660	4,770	24	10	18	6	21	3				
April												
4	1,151	647	24	0	19	6	21	6		44½		42
11	1,747	1,147	24	0	20	3	21	11		44½		42
18	2,067	982	23	6	20	0	22	1		44½		42
25	1,742	996	23	3	20	0	22	3	44½	46		42
	6,707	3,772	23	6	19	11	22	0				
May												
2	1,734	1,012	23	6	19	0	21	10		44½		40
9	1,812	750	23	6	21	0	22	4		44½	42½	43
16	2,271	1,084	22	9	20	6	21	7		44½		42
23	1,904	549	23	0	20	6	22	0		44½	42	43
30	1,748	660	23	0	20	3	21	10		44½		42
	9,469	4,005	23	2	20	6	21	11				

OATS—*continued.*

Date	Quantity offered for Sale.	Quantity Sold.	Highest Price.		Lowest Price.		Average Price.		Table of Bushel-weights for Highest Price.		Table of Bushel-weights for Lowest Price.	
1906	Imp. qr.	Imp. qr.	s.	d.	s.	d.	s.	d	lb.	lb.	lb.	lb.
June												
6	1,095	598	23	0	20	0	21	11		44½		42
13	1,087	554	23	0	21	3	22	1		43¾	42	42½
20	881	451	23	3	21	0	22	6		44		42
27	942	542	23	3	21	0	22	3		44½	42	43
	4,005	2,145	23	1	20	8	22	2				
July												
4	900	480	23	6	20	6	21	11	44½	44½		42
11	808	473	23	6	18	6	22	0		44½		40
18	809	390	24	0	18	6	22	4		44½		42
25	1,167	677	24	0	20	9	22	8		44½		42
	3,684	2,020	23	8	20	3	22	3				
Aug												
1	902	432	24	0	21	6	23	4		44½		42
8	803	802	24	0	21	6	23	1		44½		42
15	1,652	627	24	0	21	0	22	3		44		42
22	990	484	24	0	21	6	22	10		44½		42
29	626	241	23	6	21	0	22	6		44½		42¼
	5,000	2,086	23	11	21	3	22	9				
Sept												
5	2,094	1,594	23	6	19	6	21	8	44	44½		42
12	2,052	1,603	22	6	17	0	20	9		44		41
19	1,580	1,399	22	6	17	9	20	2		44		42
26	1,485	1,255	22	6	17	0	20	2		44	40	42
	7,217	5,851	22	9	18	0	20	9				
Oct.												
3	1,724	1,342	22	6	18	6	19	11		44		41
10	1,230	859	22	6	17	0	19	5		44		42
17	1,394	984	23	0	17	0	20	0		44½		41¾
24	1,120	915	22	0	19	0	20	1		44½		42
31	1,360	1,110	23	0	18	0	20	3		44½		42
	6,828	5,210	22	6	18	2	19	11				
Nov.												
7	1,978	1,296	22	6	16	0	20	1		44		41
14	2,054	1,383	23	0	17	9	20	1	44	44½		41
21	2,088	1,304	23	0	18	9	20	4		44½	42	42½
28	2,050	1,030	21	9	17	6	19	8		45		42¼
	8,170	5,013	22	7	17	7	20	1				
Dec.												
5	2,147	1,297	22	0	17	6	19	8		44½		42
12	2,057	1,477	23	0	17	9	20	3		45½		42
19	2,181	1,313	21	6	17	6	19	8		45½		42
26	1,210	890	21	0	17	9	19	4	44	44½		42
	7,595	4,977	21	7	17	7	19	10				
Result for year	98,007	55,394	23	4	19	2	20	10				

BEANS.

Date.	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for Highest Price.	Table of Bushel-weights for Lowest Price.
1906 Jan.	Imp. qr.	Imp. qr.	*s. d.*	*s. d.*	*s. d.*	lb. lb.	lb. lb.
3	20	..	..	..	..	..	..
10	52	52	34 0	..	34 0	65½	..
17	..	..	..	..	..	..	..
24	35	25	34 6	..	34 6	65½	..
31	11	11	32 6	..	32 6	62½	..
	118	88	33 11	..	33 11		
Feb. 7	40	..	..	..	..	..	..
14	35	15	34 0	..	34 0	65½	..
21	80	..	..	..	..	..	..
28	95	23	35 0	33 6	34 0	65½	65½
	250	38	34 4	33 6	34 0		
March 7	104	34	35 0	..	35 0	65½	..
14	..	..	..	..	..	..	..
21	13	..		..	..	..	..
28	..	..	..	..	..	..	..
	117	34	35 0	..	35 0		
April 4	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..
	—	..	..	..	..		
May 2	12	..	..	..	..	..	..
9	..	..	..	..	..	..	..
16	..	..	..	..	..	..	..
23	..	..	..	..	..	..	..
30	..	..	..	..	..	..	..
	12	..	..	..	..		
June 6	..	..	..		..	..	..
13	..	..	..		..	..	..
20	..		..		..	..	
27	..	..	..		..	..	..
	..	..	..		..		
July 4	..	..	..	..	..	..	..
11	..	..	..	..	..	..	..
18	..	..	..	..	..	..	..
25	..	..	..	..	..	..	..
	..	..	..	..	..		
Aug. 1	..	..	..	..	..	..	..
8	..	..	..	..	..	..	..
15	..	..	..	..	..	..	..
22	..	..	..	..	..	..	..
29	..	..	..	..	..	..	..
	..	..	..	..	..		

BEANS—*continued.*

Date	Quantity offered for Sale.	Quantity Sold.	Highest Price.	Lowest Price.	Average Price.	Table of Bushel-weights for	
						Highest Price.	Lowest Price.
1906	Imp. qr.	Imp. qr.	*s. d.*	*s d.*	*s. d.*	lb. lb.	lb. lb.
Sept.							
5	..	..	..	..	..	..	..
12	..	..	..	..	..	..	..
19	..	..	..	..	..	..	..
26	..	..	..	..	..	..	..
	..	..	..	..	..		
Oct.							
3	..	..	..	..	..	..	
10	..	..	..	..	..	..	..
17	..	..	..	..	..	..	..
24	..	..	..	..	..	..	..
31	..	..	..	..	..	..	..
	..		..	..	..		
Nov.							
7			..		..	..	..
14		..	..	..	..	..	..
21		..	..	..	..	..	..
28		..	..	..	..	..	..
		..	..	..	..		
Dec							
5		..	..	..	..	..	..
12		..	..	..	..	..	..
19		..	..	..	..	..	..
26	40	..	..		..	..	..
	40	..	..	..	..		
Result for year	587	160	34 8	33 6	34 2		

PRICES OF SHEEP SINCE 1818.

TABLE No. 1.—CHEVIOT SHEEP.

Year.	Wethers.					Ewes.					Lambs.				
	s.	d.		s.	d.	s.	d.		s.	d.	s.	d.		s.	d.
1818	28	0	to	30	0	not quoted.					8	0	to	10	0
1819	25	0	„	27	0	15	0	to	17	0	10	6	„	12	0
1820	20	0	„	25	0	16	0	„	17	0	10	0	„	11	0
1821	18	0	„	20	0	14	0	„	16	0	7	6	„	8	0
1822	12	6	„	13	0	8	0	„	8	6	4	6	„	0	0
1823	13	6	„	18	0	7	0	„	10	6	5	6	„	6	0
1824	14	0	„	19	0	7	0	„	9	0	4	6	„	6	0
1825	29	0	„	32	0	15	0	„	19	0	9	0	„	10	6
1826	17	6	„	21	6	13	0	„	15	0	7	0	„	7	6
1827	15	0	„	24	0	not quoted.					7	0	„	8	0
1828	18	0	„	27	6	12	0	to	15	0	7	0	„	8	3
1829	18	0	„	24	0	12	6	„	14	0	7	0	„	8	6
1830	15	0	„	21	0	8	0	„	11	0	6	0	„	6	9
1831	18	0	„	25	0	9	0	„	13	0	7	0	„	8	0
1832	19	0	„	24	0	11	0	„	16	0	7	0	„	9	0
1833	22	0	„	31	0	13	6	„	20	0	8	0	„	11	3
1834	22	0	„	31	0	13	6	„	21	0	9	0	„	11	6
1835	22	0	„	27	6	18	0	„	20	6	8	0	„	11	0
1836	24	0	„	31	6	16	0	„	19	0	10	0	„	14	0
1837	19	0	„	28	0	14	0	„	19	0	10	0	„	13	0
1838	23	0	„	30	6	17	0	„	22	0	12	0	„	14	0
1839	23	0	„	31	0	14	0	„	19	0	0	0	„	13	0
1840	24	0	„	33	0	15	0	„	23	0	7	0	„	11	6
1841	23	0	„	30	0	14	0	„	22	0	8	0	„	12	0
1842	22	6	„	28	0	13	0	„	17	0	7	6	„	10	0
1843	19	0	„	25	0	8	0	„	12	0	5	0	„	8	0
1844	21	0	„	29	0	10	0	„	16	0	8	0	„	10	6
1845	23	0	„	33	0	13	0	„	20	0	8	0	„	13	0
1846	24	0	„	33	6	14	6	„	21	6	10	0	„	14	6
1847	24	0	„	35	0	18	0	„	24	0	11	6	„	15	0
1848	23	0	„	34	6	13	0	„	28	0	11	6	„	15	0
1849	21	0	„	30	2	12	0	„	21	0	0	0	„	14	0
1850	20	6	„	29	6	12	0	„	20	0	8	0	„	13	0
1851	21	6	„	31	0	13	0	„	21	0	8	9	„	14	0
1852	21	0	„	32	0	15	0	„	23	0	8	0	„	14	0
1853	26	6	„	38	0	17	0	„	28	6	9	0	„	17	0
1854	25	0	„	36	0	17	0	„	26	0	9	0	„	16	6
1855	23	6	„	36	0	16	0	„	25	0	10	0	„	17	0
1856	22	0	„	35	6	15	6	„	24	0	10	0	„	15	0
1857	24	0	„	36	0	14	6	„	26	0	10	6	„	14	6
1858	24	0	„	34	6	14	0	„	24	6	10	6	„	14	0
1859	25	0	„	34	6	16	0	„	25	0	10	3	„	14	9
1860	26	0	„	38	0	17	6	„	27	6	12	6	„	17	6
1861	25	0	„	38	6	16	0	„	28	0	9	0	„	16	0
1862	27	0	„	37	6	17	6	„	28	0	10	0	„	16	0
1863	25	0	„	38	6	19	0	„	28	6	10	6	„	16	0
1864	31	0	„	41	0	21	0	„	31	6	14	0	„	18	0
1865	32	6	„	44	0	22	6	„	33	6	14	6	„	20	0
1866	37	0	„	50	0	29	0	„	42	6	15	0	„	26	0
1867	26	0	„	58	0	18	0	„	25	6	12	0	„	16	0
1868	30	0	„	32	0	15	6	„	21	0	7	6	„	13	0
1869	28	0	„	38	0	15	0	„	22	6	7	6	„	14	0
1870	35	6	„	43	0	18	0	„	28	0	10	0	„	17	0
1871	36	6	„	49	0	22	0	„	33	6	14	0	„	20	0
1872	45	0	„	56	0	32	0	„	42	0	16	0	„	22	0
1873	42	0	„	51	0	25	0	„	42	0	15	6	„	22	0
1874	33	6	„	44	6	21	0	„	36	0	12	0	„	17	0
1875	33	0	„	48	6	21	0	„	34	0	13	6	„	23	6
1876	40	0	„	52	6	23	0	„	30	0	13	6	„	25	0
1877	41	0	„	51	0	25	0	„	37	0	15	0	„	24	0
1878	35	6	„	48	0	23	6	„	35	0	14	0	„	22	0
1879	34	0	„	44	0	21	0	„	34	0	14	0	„	20	0
1880	30	0	„	43	6	20	0	„	30	0	12	6	„	20	0
1881	32	0	„	45	6	29	0	„	34	0	14	0	„	20	0
1882	40	0	„	51	0	30	0	„	40	0	14	0	„	20	6
1883	44	0	„	55	6	34	6	„	46	6	15	6	„	23	0
1884	36	0	„	47	6	29	6	„	41	6	12	6	„	20	0
1885	30	0	„	38	0	24	0	„	31	0	12	0	„	18	0

TABLE NO. 1.—CHEVIOT SHEEP—*Continued.*

Year.	Wethers					Ewes.					Lambs				
	s	*d.*		*s.*	*d.*	*s*	*d*		*s*	*d*	*s*	*d*		*s*	*d.*
1886	32	0	to	40	0	21	0	to	29	0	12	6	to	19	0
1887	29	0	"	36	0	18	0	"	26	0	11	0	"	16	6
1888	30	0	"	38	0	19	0	"	27	0	12	0	"	17	6
1889	36	0	"	44	0	24	0	"	32	0	14	0	"	22	0
1890	31	0	"	40	0	22	0	"	30	0	12	6	"	20	0
1891	27	0	"	38	0	16	0	"	25	0	9	0	"	16	0
1892	22	0	"	30	6	13	0	"	22	0	5	0	"	11	0
1893	26	0	"	35	6	18	0	"	28	6	8	6	"	15	0
1894	26	0	"	37	0	20	0	"	31	0	10	6	"	18	6
1895	28	0	"	39	0	22	0	"	34	0	11	6	"	19	6
1896	24	6	"	34	0	19	0	"	30	6	9	0	"	16	6
1897	27	0	"	36	0	21	0	"	31	6	11	0	"	17	6
1898	27	0	"	37	0	22	0	"	32	6	12	0	"	18	6
1899	24	0	"	33	0	20	0	"	30	6	10	6	"	16	0
1900	26	0	"	36	0	22	0	"	32	6	12	0	"	17	0
1901	25	0	"	32	6	20	0	"	29	6	11	0	"	16	0
1902	24	0	"	31	6	18	0	"	27	0	9	6	"	14	6
1903	26	0	"	34	0	21	0	"	31	0	11	4	"	18	0
1904	28	6	"	36	6	23	0	"	32	6	13	0	"	20	0
1905	27	6	"	35	0	23	0	"	33	0	14	0	"	21	0
1906	30	0	"	38	0	26	0	"	34	6	15	0	"	23	0

TABLE NO. 2.—BLACKFACED SHEEP.

Year.	Wethers.					Ewes.					Lambs.				
	s.	*d*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*
1819	22	0	to	24	0	12	0	to	15	0	8	0	to	9	0
1820	20	0	"	23	3	15	6	"	17	0	7	0	"	8	6
1821	18	0	"	20	0	12	0	"	13	0	6	0	"	7	0
1822	11	6	"	13	6	5	6	"	6	0	4	6	"	0	0
1823	12	0	"	16	0	5	0	"	6	6	4	0	"	5	3
1824	9	6	"	13	6	6	0	"	7	0	4	0	"	5	0
1825	22	0	"	26	0	11	0	"	13	6	6	0	"	9	0
1826	15	0	"	17	0	8	0	"	9	0	4	6	"	6	0
1827	14	0	"	18	6	7	0	"	10	0	6	0	"	7	6
1828	15	0	"	20	0	8	0	"	11	0	5	0	"	7	6
1829	14	0	"	18	0	9	0	"	10	0	6	0	"	7	0
1830	9	6	"	13	0	4	0	"	6	0	4	6	"	6	0
1831	13	0	"	17	0	5	0	"	7	6	5	0	"	6	6
1832	14	0	"	18	0	7	0	"	11	6	6	0	"	7	8
1833	16	0	"	24	0	7	6	"	12	0	6	6	"	9	0
1834	16	0	"	22	0	10	0	"	13	0	6	0	"	8	6
1835	15	0	"	18	9	10	0	"	13	0	7	0	"	8	0
1836	15	0	"	21	0	9	0	"	12	0	8	6	"	11	0
1837	13	0	"	16	0	8	0	"	12	0	8	0	"	9	6
1838	15	0	"	20	6	10	0	"	13	0	not quoted				
1839	15	0	"	22	0	10	0	"	12	0	7	0	to	8	3
1840	15	0	"	22	6	11	0	"	12	0	7	0	"	9	3
1841	16	0	"	20	0	9	0	"	11	0	6	0	"	8	0
1842	14	0	"	19	0	7	6	"	8	0	5	6	"	7	0
1843	not quoted.					4	9	"	6	6	not quoted.				
1844	15	0	to	21	0	6	6	"	10	0	5	0	to	8	0
1845	14	0	"	23	0	8	0	"	12	0	6	0	"	8	0
1846	13	0	"	24	0	10	0	"	13	0	8	0	"	9	0
1847	20	6	"	25	0	10	0	"	14	0	8	6	"	9	6
1848	20	0	"	24	0	11	3	"	12	0	8	6	"	10	0
1849	not quoted.					not quoted					7	0	"	7	6
1850			..					..			7	0	"	0	0
1851	17	6	to	23	0	9	0	to	12	0	6	6	"	8	0
1852	18	6	"	22	0	9	6	"	12	0	4	6	"	7	9
1853	23	0	"	27	0	14	6	"	16	6	8	0	"	11	6
1854	20	0	"	26	0	11	0	"	16	6	8	0	"	10	6
1855	23	6	"	26	6	14	0	"	16	0	10	0	"	11	0
1856	17	0	"	24	0	10	0	"	20	0	7	6	"	10	0
1857	20	0	"	29	0	10	6	"	15	0	9	3	"	11	0
1858	20	0	"	27	6	9	9	"	18	9	8	3	"	10	6
1859	20	0	"	25	0	10	0	"	14	0	8	9	"	11	0
1860	21	0	"	27	3	11	0	"	16	0	10	0	"	13	6
1861	21	0	"	29	0	12	0	"	22	0	6	3	"	14	0
1862	16	9	"	27	0	12	0	"	18	8	6	0	"	12	0

TABLE No. 2.—BLACKFACED SHEEP—*Continued.*

Year.	Wethers.					Ewes.					Lambs.				
	s.	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*
1863	20	0	to	30	6	13	0	to	16	0	8	0	to	11	6
1864	25	0	„	30	0	15	0	„	19	0	10	0	„	13	6
1865	15	6	„	32	6	15	0	„	25	0	10	0	„	17	0
1866	31	6	„	40	0	20	0	„	36	0	13	6	„	22	6
1867	20	0	„	30	6	14	0	„	22	0	7	6	„	13	6
1868	20	0	„	26	0	10	6	„	13	6	7	0	„	13	0
1869	22	0	„	28	0	11	0	„	14	0	6	9	„	9	0
1870	27	0	„	32	6	13	0	„	22	0	8	0	„	14	6
1871	23	0	„	37	0	13	0	„	23	0	11	0	„	16	3
1872	31	6	„	45	0	18	0	„	32	0	12	6	„	18	0
1873	28	0	„	39	0	16	6	„	27	0	7	0	„	16	0
1874	25	0	„	35	0	13	0	„	20	0	7	0	„	14	0
1875	26	6	„	37	6	15	0	„	21	3	9	6	„	17	6
1876	30	0	„	40	0	19	0	„	24	0	13	0	„	20	6
1877	35	0	„	38	9	18	0	„	25	0	13	6	„	23	0
1878	30	0	„	36	0	17	0	„	23	0	12	0	„	22	0
1879	25	0	„	35	9	16	0	„	24	0	10	6	„	20	0
1880	25	0	„	38	0	16	6	„	22	6	10	0	„	17	0
1881	30	0	„	39	0	15	0	„	23	0	10	0	„	15	0
1882	33	0	„	46	0	20	0	„	28	0	12	6	„	18	6
1883	36	0	„	50	6	24	6	„	33	0	14	0	„	21	6
1884	29	0	„	43	6	19	6	„	28	0	12	0	„	19	6
1885	24	0	„	34	0	13	0	„	22	6	10	0	„	15	0
1886	25	0	„	34	0	12	0	„	22	0	10	6	„	16	0
1887	22	0	„	30	0	11	0	„	19	0	8	0	„	13	0
1888	22	0	„	32	0	13	0	„	24	0	10	0	„	15	0
1889	26	0	„	40	0	18	0	„	29	0	13	0	„	22	0
1890	24	0	„	37	0	14	0	„	27	0	10	6	„	19	0
1891	21	0	„	37	0	10	0	„	24	0	7	6	„	15	0
1892	16	0	„	28	6	6	0	„	17	0	8	0	„	10	0
1893	21	0	„	37	0	12	0	„	24	0	7	0	„	14	6
1894	20	0	„	37	6	14	6	„	26	6	8	6	„	16	0
1895	23	0	„	41	0	16	0	„	28	6	9	0	„	17	0
1896	19	0	„	35	4	13	0	„	24	0	6	0	„	13	6
1897	21	0	„	36	6	15	0	„	25	6	7	0	„	14	6
1898	22	0	„	37	0	16	0	„	26	6	8	0	„	15	0
1899	20	0	„	33	6	13	0	„	24	0	5	6	„	13	0
1900	23	0	„	36	0	16	0	„	26	6	8	0	„	15	6
1901	20	0	„	35	0	14	0	„	25	6	6	6	„	14	6
1902	18	6	„	34	0	12	0	„	24	0	6	0	„	14	0
1903	21	0	„	36	0	15	0	„	28	0	7	0	„	16	6
1904	23	0	„	38	6	18	0	„	30	0	8	6	„	17	6
1905	21	6	„	37	0	19	0	„	31	0	9	0	„	18	6
1906	23	0	„	38	0	20	0	„	33	0	10	0	„	19	6

TABLE No. 3.—PRICE OF WOOL, PER STONE OF 24 LB., SINCE 1818.

Year.	Laid Cheviot.					White Cheviot.					Laid Highland.					White Highland.				
	s.	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*	*s.*	*d.*		*s.*	*d.*
1818	40	0	to	42	2			..			20	0	to	22	6			..		
1819	21	0	„	22	0			..			10	0	„	10	3			..		
1820	20	0	„	22	0			..			9	0	„	10	0			..		
1821	18	0	„	20	0			..			9	0	„	10	0			..		
1822	12	6	„	14	6			..			5	0	„	6	6			..		
1823	9	0	„	10	6			..			5	0	„	5	9			..		
1824	13	6	„	15	0			..			6	0	„	6	3			..		
1825	10	6	„	22	0			..			10	0	„	10	6			..		
1826	11	0	„	14	0			..			5	6	„	5	6			..		
1827	11	0	„	14	0			..			5	6	„	6	9			..		
1828	8	0	„	11	0			..			5	6	„	6	0			..		
1829	8	6	„	11	0			..			4	3	„	0	0			..		
1830	9	6	„	11	0			..			4	6	„	5	0			..		
1831	17	0	„	20	0			..			7	6	„	8	6			..		
1832	14	0	„	16	0			..			7	0	„	7	6			..		
1833	18	0	„	20	7			..			10	0	„	11	0			..		
1834	21	0	„	24	6			..			5	6	„	7	0			..		
1835	19	0	„	20	6			..			9	6	„	10	8			..		
1836	21	0	„	25	0			..			10	0	„	14	0			..		

TABLE No. 3.—PRICE OF WOOL—*Continued.*

Year.	Laid Cheviot.	White Cheviot.	Laid Highland.	White Highland.
	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
1837	12 0 to 14 0	..	7 0 to 7 8	..
1838	19 0 „ 22 6	..	6 0 „ 10 0	..
1839	18 0 „ 20 0	..	8 0 „ 12 0	..
1840	15 0 „ 0 0	..	7 0 „ 0 0	..
1841	15 0 „ 16 9	..	6 0 „ 7 5	..
1842	12 6 „ 14 0	..	not quoted.	..
1843	9 0 „ 11 6	.	5 0 to 6 0	..
1844	15 0 „ 18 0	..	not quoted.	..
1845	14 6 „ 17 6	..	7 6 to 8 6	..
1846	12 0 „ 14 6	..	8 0 „ 8 6	..
1847	12 6 „ 14 0	..	not quoted.	..
1848	9 6 „ 11 0	..	4 9 to 0 0	..
1849	12 0 „ 16 6	..	6 0 „ 6 3	..
1850	15 0 „ 17 6	.	8 0 „ 8 6	..
1851	12 0 „ 16 0	..	8 0 „ 9 3	..
1852	13 0 „ 15 0	..	8 0 „ 9 0	..
1853	19 0 „ 22 0	.	11 0 „ 12 6	..
1854	12 0 „ 15 0	..	7 6 „ 8 6	..
1855	14 6 „ 19 0	..	8 6 „ 9 0	..
1856	19 0 „ 21 6	..	11 0 „ 0 0	..
1857	19 0 „ 24 0	..	13 0 „ 14 3	..
1858	15 0 „ 17 0	..	8 9 „ 10 0	..
1859	18 6 „ 24 0	..	10 9 „ 11 6	..
1860	22 0 „ 32 0	37 0 to 38 0	10 0 „ 11 3	..
1861	19 6 „ 27 0	from 30s. upwards	not quoted.	..
1862	18 6 „ 26 0	30 0 to 37 0	11 6 to 16 0	..
1863	25 6 „ 31 0	38 0 „ 42 0	15 3 „ 17 6	..
1864	31 0 „ 39 0	47 0 „ 54 0	17 6 „ 20 0	..
1865	23 0 „ 30 0	44 0 „ 45 0	15 0 „ 17 0	..
1866	24 0 „ 30 0	30 0 „ 38 0	14 0 „ 16 0	.
1867	16 0 „ 21 6	not quoted.	not quoted	..
1868	19 0 „ 26 0	28 0 to 32 0	8 6 to 9 0	..
1869	18 0 „ 26 6	not quoted.	8 6 „ 10 0	..
1870	15 0 „ 23 6	25 0 to 26 0	9 6 „ 0 0	..
1871	20 0 „ 26 6	30 0 „ 34 6	12 0 „ 15 0	..
1872	26 0 „ 37 6	40 0 „ 48 0	18 0 „ 21 0	..
1873	17 0 „ 18 0	34 0 „ 40 0	9 0 „ 12 0	..
1874	18 6 „ 26 6	30 0 „ 34 0	9 6 „ 18 0	..
1875	25 0 „ 32 0	34 6 „ 36 0	12 6 „ 16 0	..
1876	20 0 „ 24 0	30 0 „ 34 6	9 6 „ 12 0	..
1877	20 9 „ 26 0	28 0 „ 30 0	10 0 „ 12 0	..
1878	18 9 „ 25 0	27 0 „ 32 0	8 6 „ 11 6	..
1879	15 0 „ 17 0	prices very low.	7 0 „ 0 0	..
1880	20 0 „ 24 0	30 0 to 32 0	10 6 „ 11 6	14 0 to 15 0
1881	17 0 „ 21 0	27 0 „ 30 0	5 0 „ 9 6	12 0 „ 13 0
1882	14 0 „ 18 0	27 6 „ 28 0	7 6 „ 9 0	13 0 „ 14 0
1883	13 0 „ 18 0	26 0 „ 28 0	6 6 „ 8 6	11 6 „ 12 6
1884	13 0 „ 18 0	26 0 „ 28 0	6 6 „ 8 6	11 6 „ 12 6
1885	12 0 „ 17 0	22 6 „ 26 0	6 0 „ 8 0	11 6 „ 12 0
1886	13 0 „ 18 0	23 0 „ 27 6	6 6 „ 8 6	11 6 „ 12 0
1887	14 0 „ 22 0	23 0 „ 28 0	7 0 „ 9 0	11 6 „ 13 0
1888	13 0 „ 20 0	23 0 „ 28 0	7 0 „ 9 0	11 0 „ 12 6
1889	13 0 „ 18 0	24 0 „ 28 0	7 0 „ 9 0	11 0 „ 12 6
1890	13 0 „ 18 0	24 0 „ 28 0	7 0 „ 9 0	11 0 „ 12 6
1891	12 6 „ 18 0	22 0 „ 28 0	7 0 „ 9 0	11 0 „ 12 6
1892	12 0 „ 18 0	20 0 „ 28 0	7 0 „ 8 6	10 6 „ 12 0
1893	12 0 „ 17 0	20 0 „ 27 0	7 0 „ 8 0	10 0 „ 12 0
1894	12 0 „ 16 0	20 0 „ 26 0	7 0 „ 8 0	10 0 „ 12 0
1895	12 0 „ 16 0	20 0 „ 25 0	7 0 „ 8 0	10 0 „ 11 6
1896	11 0 „ 15 0	19 0 „ 24 0	7 0 „ 8 0	10 0 „ 11 6
1897	11 0 „ 14 0	18 0 „ 23 0	7 0 „ 8 0	10 6 „ 12 0
1898	10 0 „ 13 0	16 0 „ 20 0	7 0 „ 8 0	10 0 „ 11 6
1899	10 0 „ 13 0	13 0 „ 18 6	7 0 „ 8 0	8 6 „ 9 6
1900	9 9 „ 12 0	13 0 „ 18 6	6 9 „ 7 9	8 0 „ 9 6
1901	9 0 „ 10 0	11 0 „ 16 6	5 9 „ 6 6	8 0 „ 9 0
1902	9 0 „ 10 0	11 6 „ 17 0	6 0 „ 6 6	8 6 „ 9 6
1903	10 0 „ 12 0	15 0 „ 18 0	7 0 „ 8 0	11 6 „ 12 6
1904	15 0 „ 17 0	20 0 „ 21 0	9 0 „ 10 0	14 0 „ 15 0
1905	17 0 „ 20 0	24 0 „ 26 0	10 0 „ 11 0	15 0 „ 16 0
1906	18 0 „ 21 0	27 0 „ 28 6	11 6 „ 13 0	16 6 „ 17 6

GENERAL SHOW AT PEEBLES, 1906.

The Peebles Show was in every way gratifying to the Society. Thanks mainly to enthusiastic support from the people of the district, the financial results of the Show far exceeded the most sanguine expectations. The weather was only moderately favourable, yet the attendance of the public was comparatively large. The drawings at the Show amounted to £2595, while the local fund raised in aid of the Show reached the handsome total of £1489. The net result was that the receipts exceeded the outlays by £416.

A beautiful and convenient site was provided in the Victoria Park and Kingsmeadows Park, the use of both being given free of charge, the former by the town of Peebles and the latter by Sir Duncan E. Hay of Haystoun, Bart.

The show of live stock was highly creditable to breeders of pure-bred live stock in Scotland. In almost every section the standard of merit was high. There was likewise a large and representative collection of modern implements and machines.

Statistics.

The following tables give the number of entries in the various sections :—

1. CATTLE.

Class.	SHORTHORN.	No. of Entries.	
1.	Aged bulls . .	11	
2.	Two-year-old bulls	12	
3.	One-year-old bulls .	13	
4.	Cows of any age .	6	
5.	Two-year-old heifers	7	
6.	One-year-old heifers	20	
	ABERDEEN-ANGUS.		
7.	Aged bulls . .		
8.	Two-year-old bulls		
9.	One-year-old bulls .		
10.	Cows of any age .		
	Extra Stock .		
11.	Two-year-old heifers		
12	One-year-old heifers	11	
		—	46
	GALLOWAY.		
13,	Aged bulls . .	6	
14.	Two-year-old bulls	4	
15.	One-year-old bulls .	8	
16.	Cows of any age .	9	
17.	Two-year-old heifers	8	
18.	One-year-old heifers	9	
		—	44

HIGHLAND.

19. Aged bulls	7	
20. Two-year-old bulls	4	
21. One-year-old bulls	9	
22. Cows of any age	10	
23. Three-year-old heifers	10	
24. Two-year-old heifers	12	
	—	52

AYRSHIRE.

25. Aged bulls	3	
26. Two-year-old bulls	2	
27. One-year-old bulls	4	
28. Cows in milk, calved before 1903	9	
29. Cows in milk, calved after 1st January 1903	9	
30. Cows of any age, in calf, or heifers calved in 1903, in calf, and due to calve within nine months after the Show	4	
31. Two-year-old heifers	5	
32. One-year-old heifers	6	
	—	42
		253

2. HORSES.

DRAUGHT STALLIONS.

33. Aged stallions	12	
34. Three-year-old entire colts	15	
35. Two-year-old entire colts	14	
36. One-year-old entire colts	13	
	—	54

DRAUGHT GELDINGS.

37. Aged geldings	6	
38. Three-year-old geldings	5	
39. Two-year-old geldings	3	
	—	14

DRAUGHT MARES AND FILLIES.

40. Mares with foal at foot	10	
41. Yeld mares, foaled before 1903	6	
Extra stock	2	
42. Three-year-old yeld mares, or fillies	7	
43. Two-year-old fillies	14	
44. One-year-old fillies	11	
	—	50

HUNTERS.

45. Colts, geldings, or fillies, foaled in 1905, the produce of thoroughbred stallions	[illegible]	
46. Fillies, mares, or geldings, for field, foaled in 1904—*in hand*	[illegible]	
47. Yeld mares, fillies, or geldings, for field, foaled in 1903—*in hand*		
48. Made hunters, any age, able to carry up to 13 stone		
49. Made hunters, any age, able to carry over 13 stone		
50. Hunter, brood mares, with foal at foot		
	—	43

HACKNEYS.

51. Brood mares, 15 hands and upwards, with foal at foot, or to foal this season to a registered sire	1	
52. Brood mares, under 15 hands, with foal at foot, or to foal this season to a registered sire	3	
53. Yeld mares or fillies, three years old		
54. Fillies, two years old		
55. Fillies, one year old		
56. Stallions, foaled in or before 1903, over 15 hands		
57. Stallions, foaled in or before 1903, over 14 and not over 15 hands		
58. Entire colts, two years old		
59. Entire colts, one year old		

Continued on p. 331.

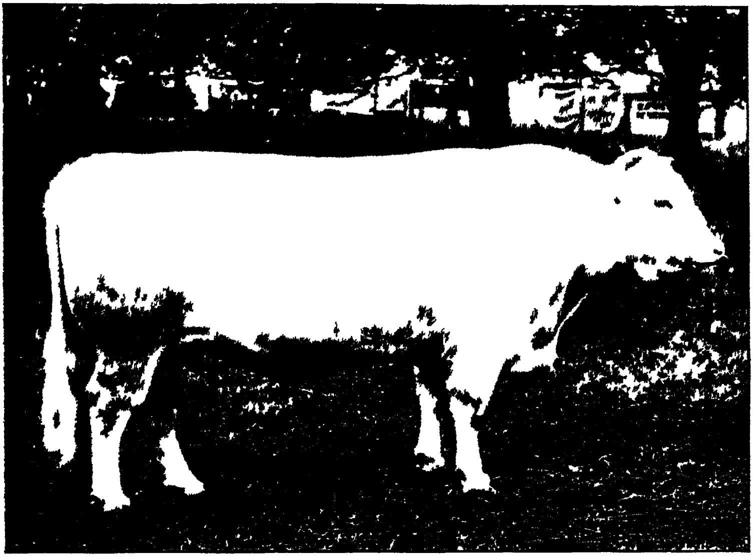

Fig 62 —SHORTHORN BULL "METFOR" 86,631

Winner of the President's Medal for best Shorthorn Peebles Show 1906 The property of Sir Richard Cooper Bart Shenstone Court Lichfield Bred by Mr C M Richardson, Noyadd Wilwyn Cardiganshire Age three years and three months

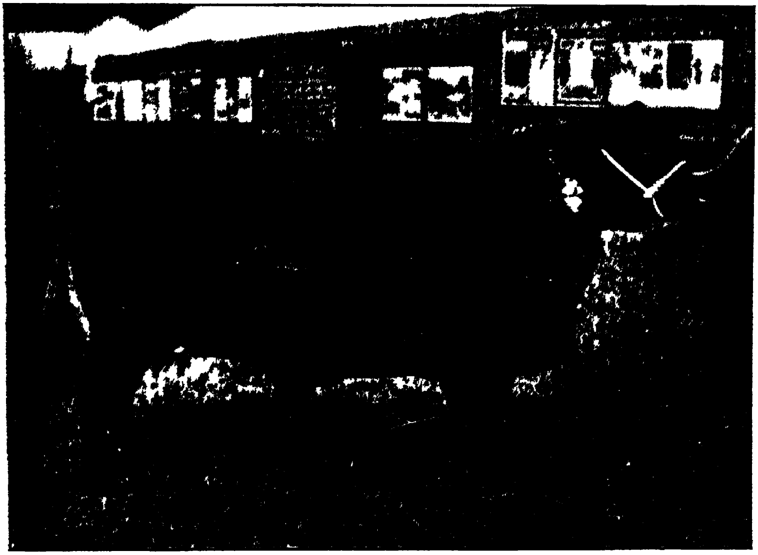

Fig. 63 —ABERDEEN ANGUS COW, "JUANA ERICA" 36,285.

Winner of the President's Medal for best Aberdeen-Angus animal Peebles Show, 1906 The property of Mr J E Kerr Harviestoun Castle Dollar Bred by the Dowager-Countess of Seafield, Cullen House, Cullen Age three years and two months

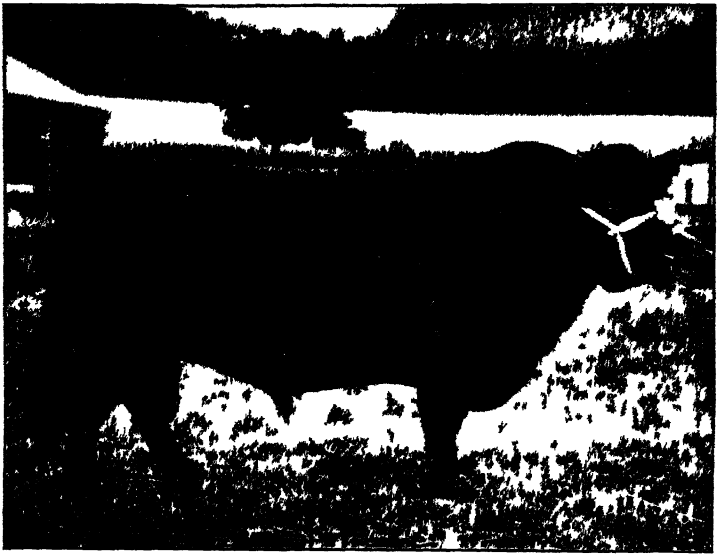

Fig 64 —GALLOWAY BULL, "CAMPFOLLOWER 3RD OF STEPFORD 8407

Winner of the President's Medal for best Galloway Peebles Show, 1906 The property of Mr W M Neilson of Queenshill Ringford Bred by Mr D Brown Stepford Auldgirth Age five years

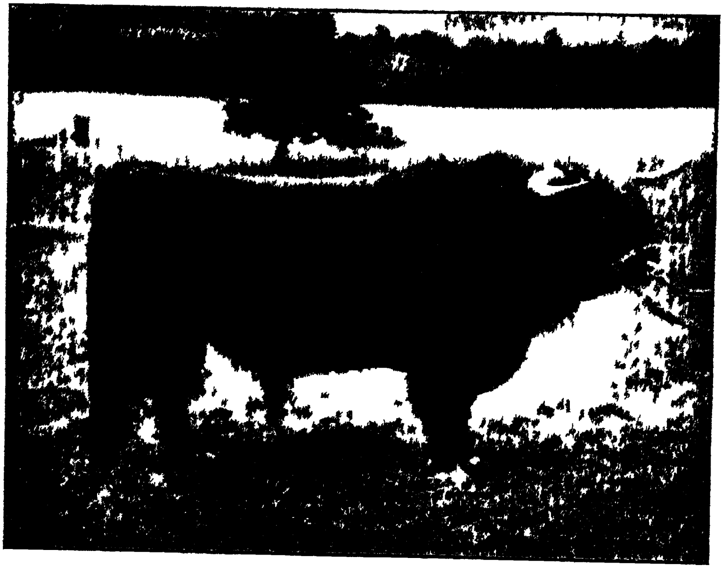

Fig 65 —HIGHLAND BULL, ' LORD CLYDE ' 2034

Winner of the President's Medal for best Highland animal Peebles Show 1906 The property of Bullough's Trustees Meggernie Castle Aberfeldy Bred by the late Earl of Southesk Age three years and three months

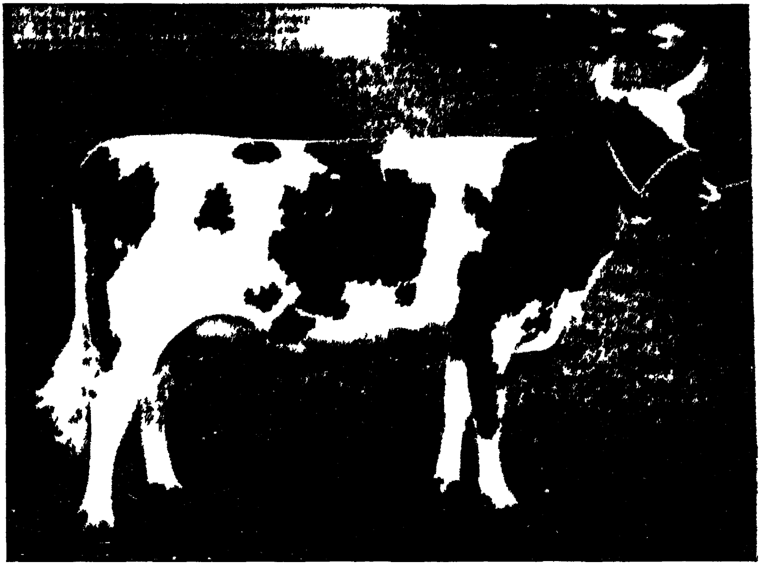

Fig 66 —AYRSHIRE COW, ‘LADY DIANA’ 16 726

Winner of the President's Medal for best Ayrshire Peebles Show 1906 Bred by and the property of Mr Alex Cross of Knockdon, Maybole Age three years and three months

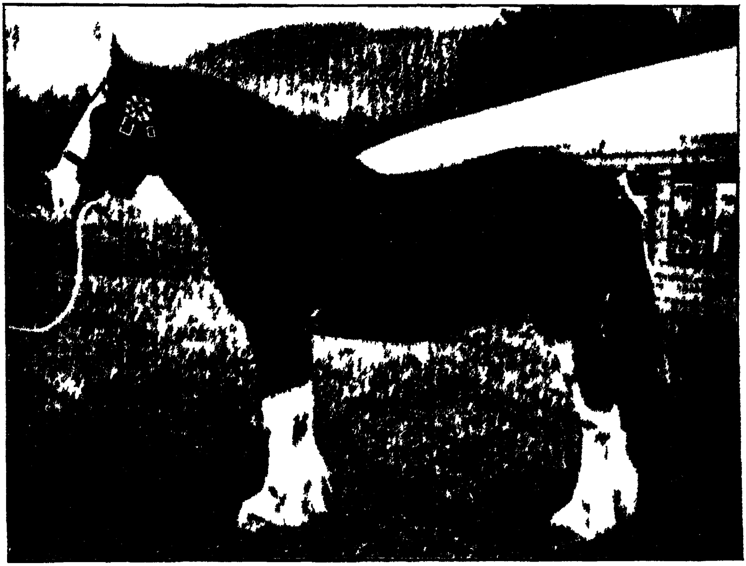

Fig 67 —CLYDESDALE COLT, ‘SCOTTISH CREST” 13 182

Winner of the President's Medal for best Clydesdale Stallion or Colt Peebles Show, 1906 The property of Messrs A & W Montgomery Netherhall and Banks Kirkcudbright Bred by Messrs Wright & Sons, Silloth Farm Silloth Age two years and three months

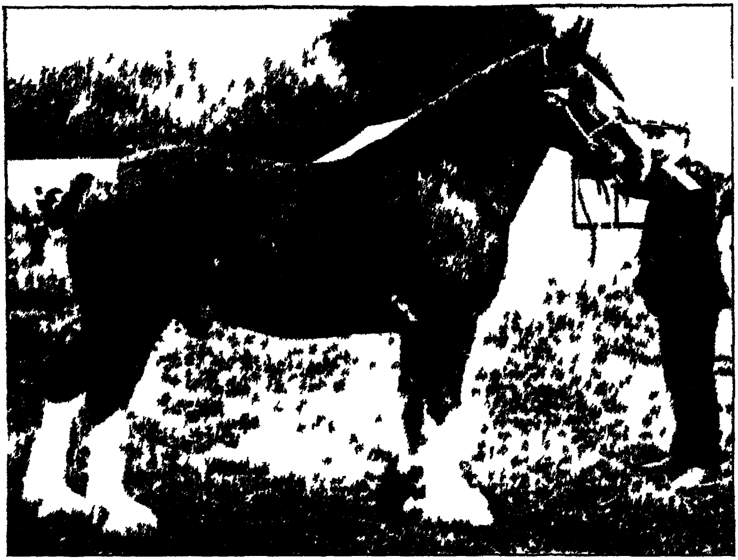

Fig 68 —Draught Gelding ' Best of All

Winner of the President's Medal for best Draught Gelding Peebles Show 1906 The property of Mr W Clark Neth r a Cathcart Bred by Captain Brown Milton Hill Alves Age [illegible]

Fig 69 —Clydesdale Mare ' Pyrene '

Winner of the President's Medal for best Clydesdale Mare or Filly Peebles Show 1906 The property of Mr J E Kerr Harviestoun Castle Dollar Bred by Mr W P Gilmour Balmangan Kirkcudbright Age six year

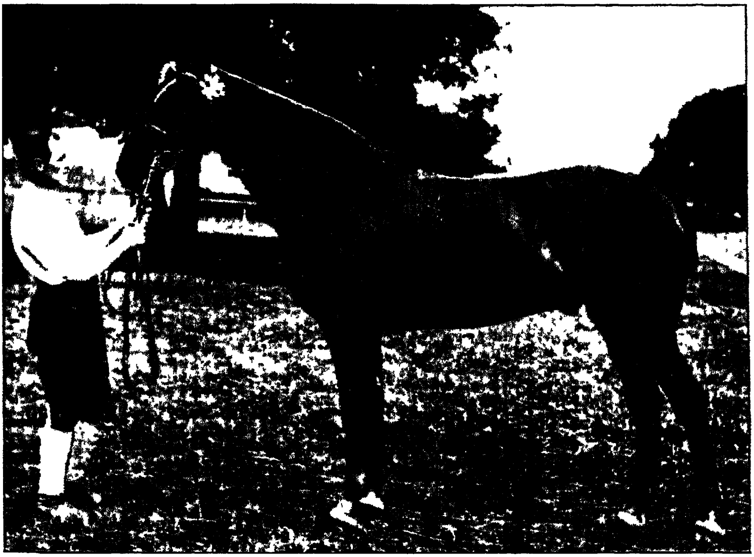

Fig. 70.—Hunter Gelding, "Ireland."

Winner of the President's Medal for best Hunter, Peebles Show, 1906. The property of Messrs T. & H Ward, Pinchinthorpe, Great Ayton. Bred by Mr T. M'Keever, Factory Hill, Colon, Ireland. Age five years.

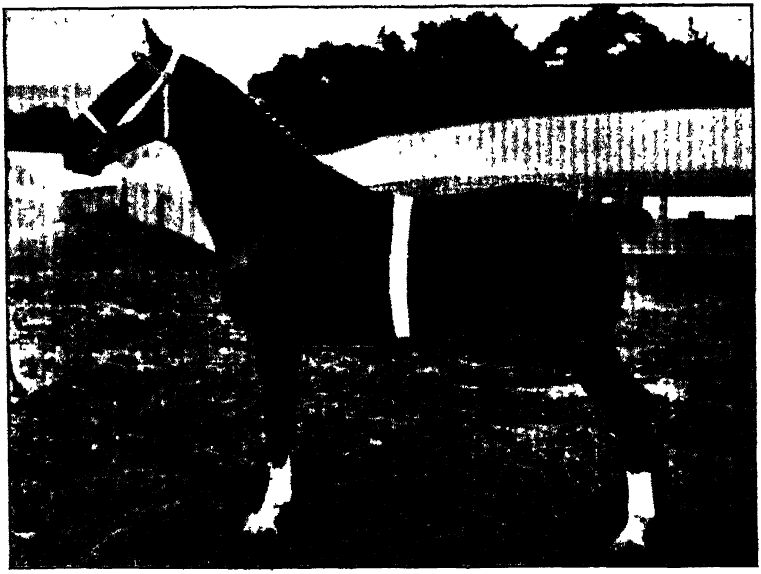

Fig. 71.—Hackney Colt, "Copmanthorpe Performer."

Winner of the President's Medal for best Hackney, Peebles Show, 1906. The property of Mr Arthur Hall, Copmanthorpe, Grange, Yorks. Bred by Mr G. Hall, Bishop Wilton, Wilberfoss, Yorks. Age two years.

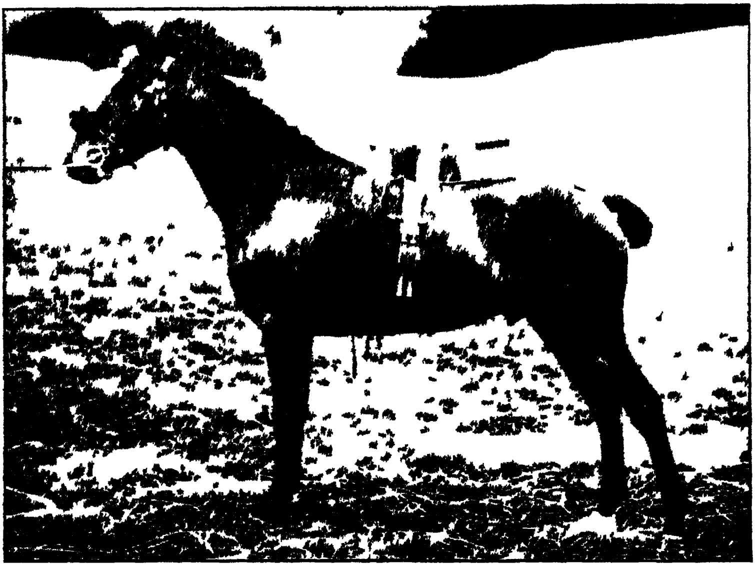

Fig 72—Pony Stallion ‘Sir Archie

Winner of the President's Medal for best Pony Peebles Show 1906 The property of Mr J E Kerr Harviestoun Castle Dollar Bred by Sir G Greenall Bart Walton Hall Warrington Age three years

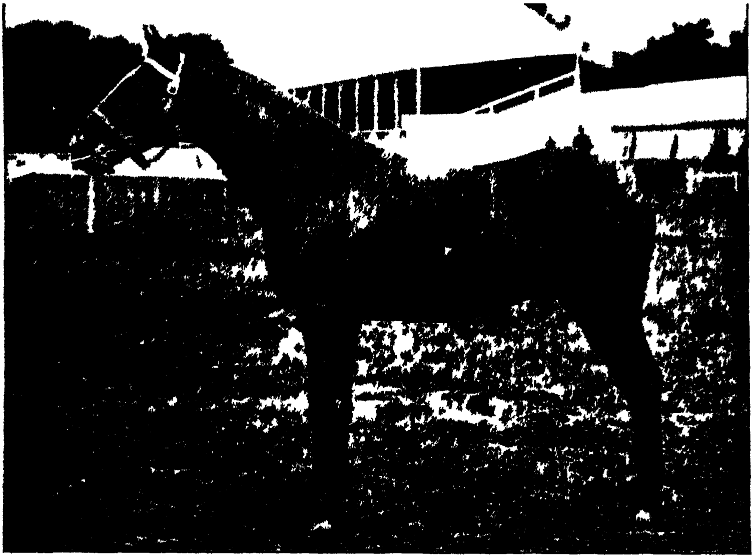

Fig 73—Polo Pony Stallion ‘White Mask 190

Winner of the President's Medal for best Polo Pony Peebles Show 1906 The property of Mr F W Chance M P Morton Carlisle Bred by Keynsham Stud Co Bleddfa Radnorshire Age seven years

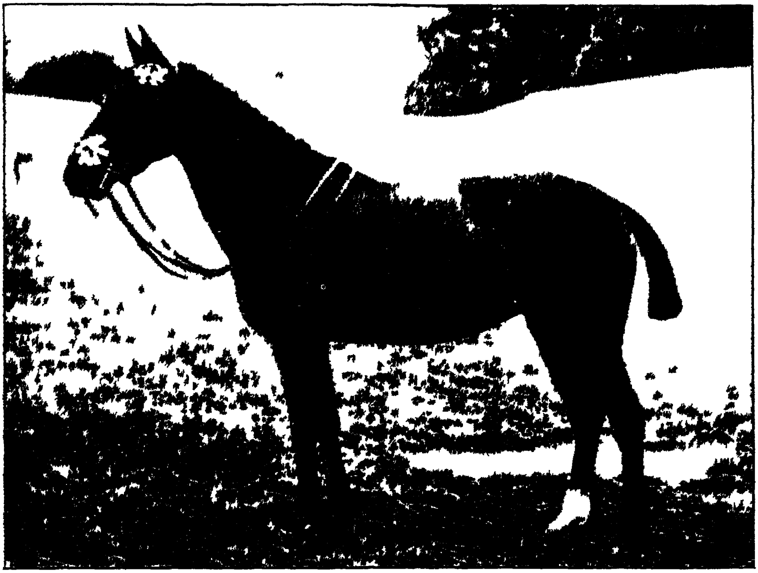

Fig 74 —Cob Mare, ' Coronation

Winner of the President's Medal for best Cob Peebles Show 1906 Bred by and the property of the Earl of Minto Minto Hawick Age four years

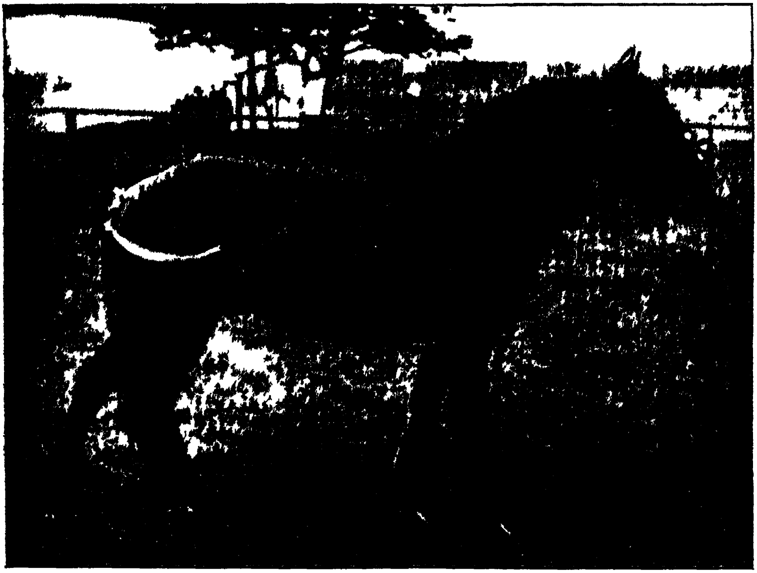

Fig 75 —Highland Pony Stallion, "MacNeil '

Winner of the President's Medal for best Highland Pony, Peebles Show 1906 The property of Lord Arthur Cecil, The Mount Lymington Hants Breeder unknown Age five years

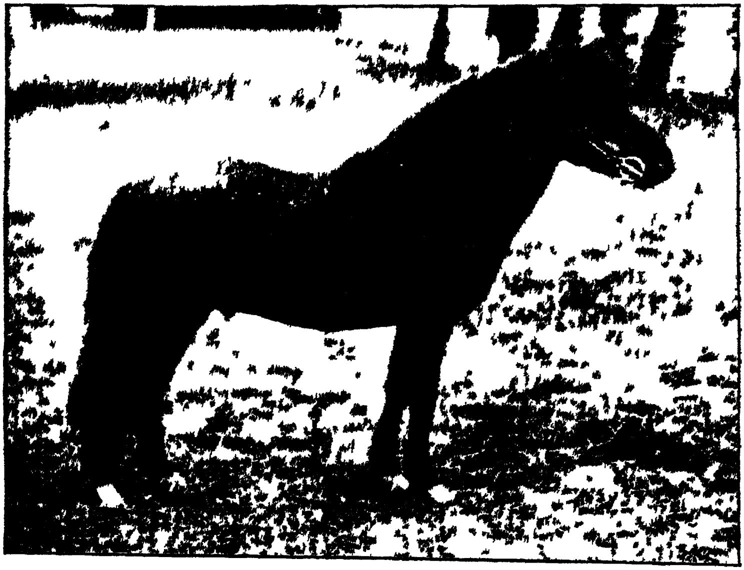

FIG. 76.—SHETLAND PONY STALLION "BELLMAN."

Winner of the President's Medal for best Shetland Pony, Peebles Show, 1905. Bred by and the property of Mr. R. W. R. Mackenzie, Earlshall, Leuchars. Age six years.

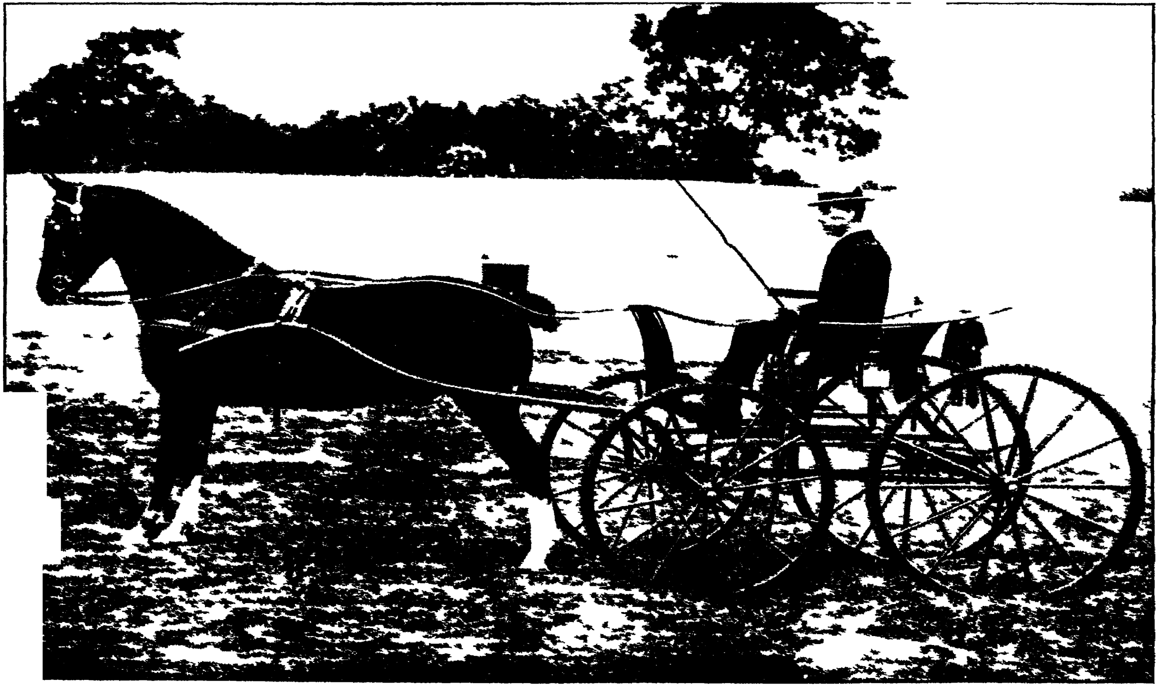

Fig 77 "LANGTON GELDING" IN HARNESS

Winner of the President's Medal for best animal in Driving Classes, Peebles Show 1906 The property of Mr T. C. M'Killim The Heaning, Windermere Bred by Mr M. Beal, Sledmere, Yorks Age five years

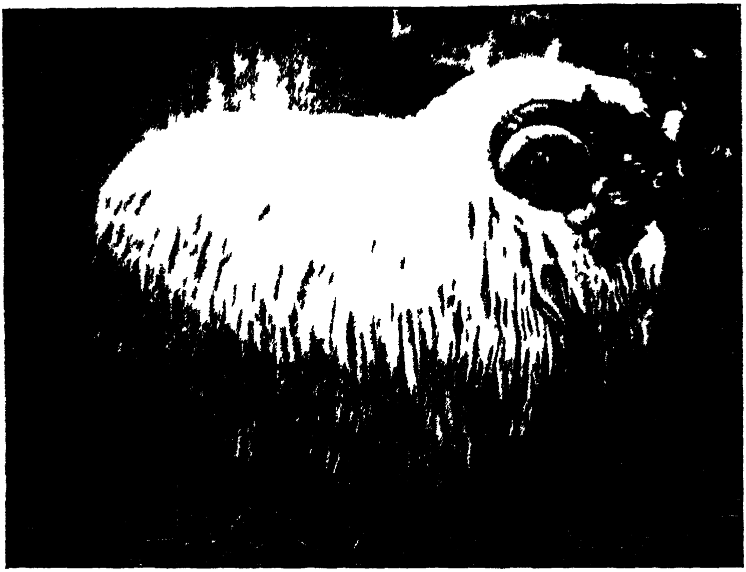

Fig. 78.—BLACKFACE SHEARLING TUP

Winner of the President's Medal for best Blackface Sheep, Peebles Show, 1906. Bred by and the property of Messrs Cadzow Brothers, Boreland and Stonehill, Dunsyre, Carstairs Junction.

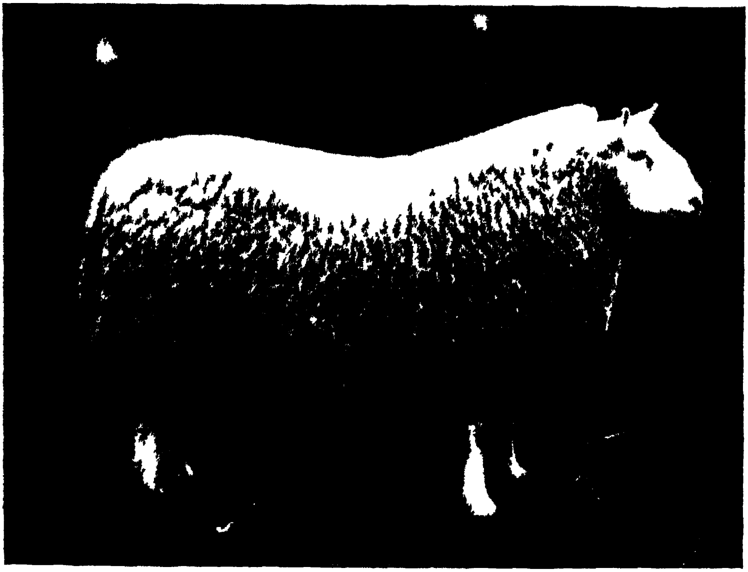

Fig. 79.—CHEVIOT SHEARLING TUP

Winner of the President's Medal for best Cheviot Sheep, Peebles Show, 1906. Bred by and the property of Mr John Elliot, Hindhope, Jedburgh.

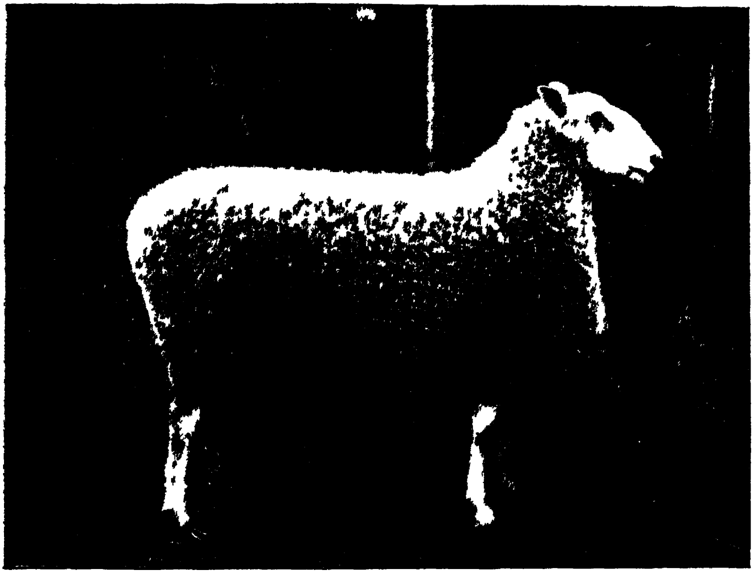

Fig. 80 —BORDER LEICESTER TUP, "PITLIVIE BRILLIANT."

Winner of the President's Medal for best Border Leicester, Peebles Show 1906 The property of Mr R Taylor, Pitlivie, Carnoustie Bred by the Duke of Buccleuch Age two shear

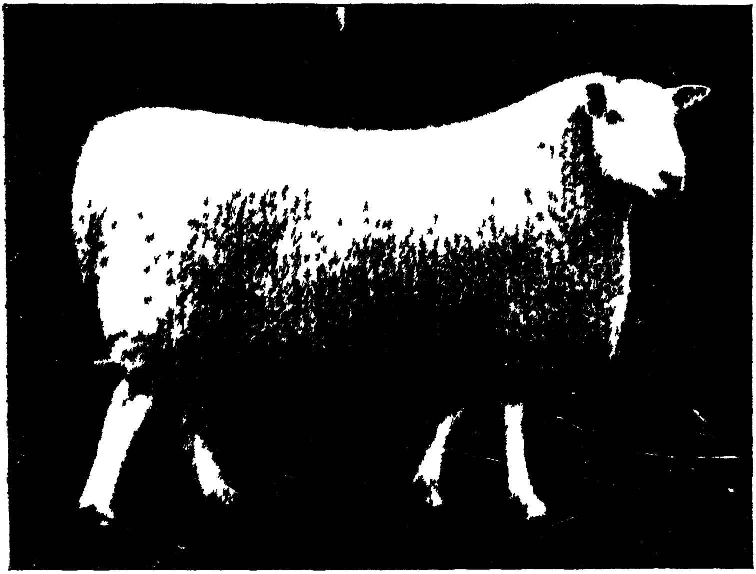

Fig 81.—HALF BRED SHEARLING TUP.

Winner of the President's Medal for Best Half Bred, Peebles Show, 1906 The property of Mr John Mark, Sunnyside, Prestonkirk Bred by Mr Jeffrey, Deuchrie, Prestonkirk

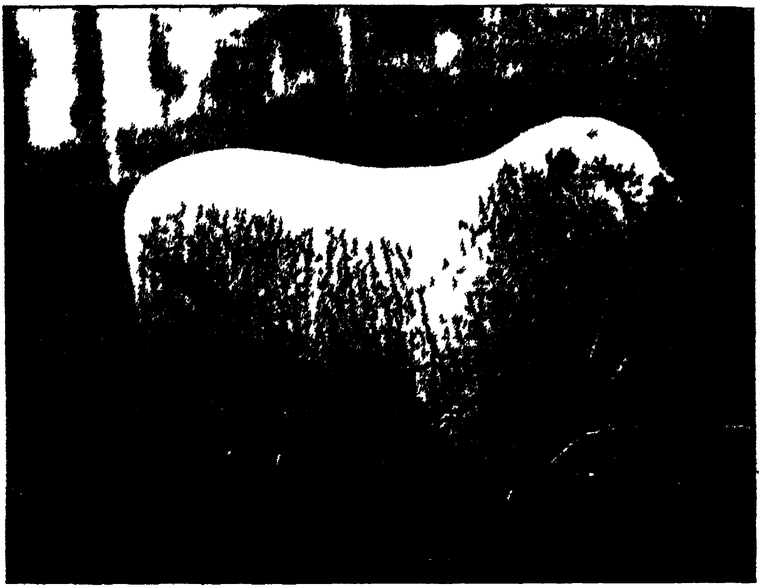

Fig 82 —SHROPSHIRE TUP

Winner of the President's Medal for best Shropshire Peebles Show 1906 Bred by and the property of Sir Richard Cooper Bart Shenstone Court Lichfield Age two shear

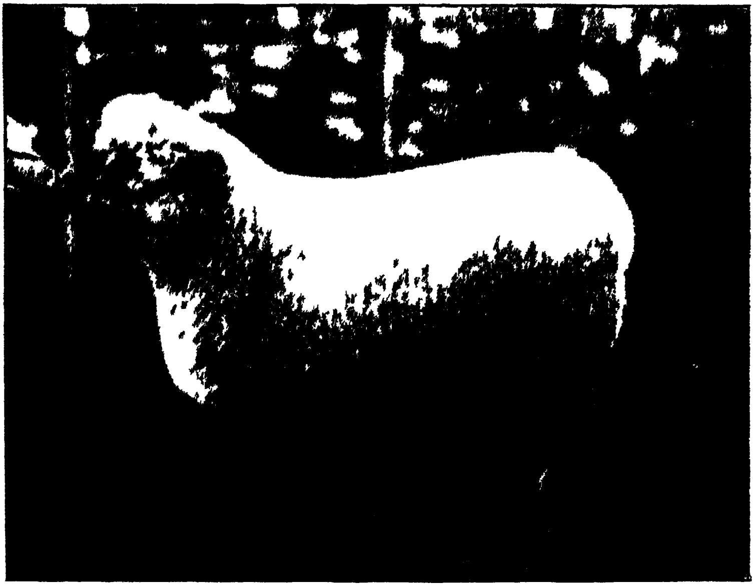

Fig 83 —OXFORD DOWN SHEARLING TUP

Winner of the President's Medal for best Oxford Down Peebles Show 1906 Bred by and the property of Mr James T Hobbs Maisey Hampton Fairford, Gloucester

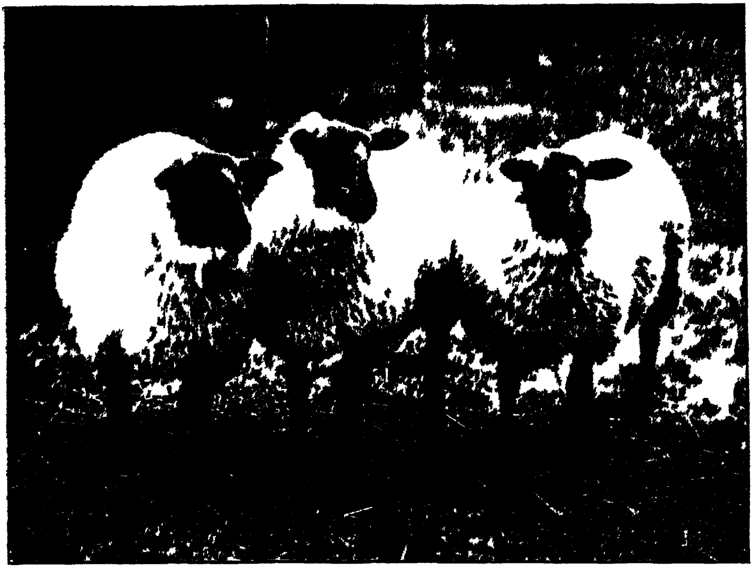

Fig 84 —Suffolk Ewe Lambs

Winners of President's Medal for best pen of Suffolk Sheep Peebles Show 1906 Bred by and the property of Mr W Hall Fentonbarns Drem

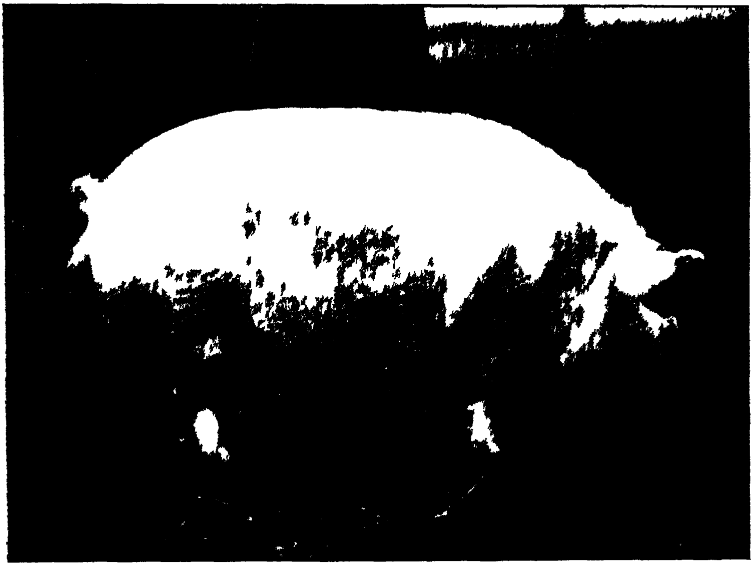

Fig 85 — Large White Sow, ' Walton Beauty 13 038

Winner of the President's Medal for best pen of Swine Peebles Show 1906 The property of Mr D W Gunn Craigcrook Farm Blackhall Edinburgh Bred by Sir F Greenall, Bart, Walton Hall Warrington Age four years

PONIES.

60.	Stallions, 3 years old and upwards, over 12 and not exceeding 14 hands	4	
61.	Stallion, 3 years old and upwards, 12 hands and under. (*No entry.*)		
62.	Yeld mares, fillies, or geldings, 3 years old and upwards, over 13 and not over 14 hands	2	
63.	Yeld mares, fillies, or geldings, 3 years old and upwards, over 12 and not over 13 hands	5	
64.	Yeld mares, fillies, or geldings, 3 years old and upwards, 12 hands and under	4	
		—	15

POLO AND RIDING PONIES.

65.	Stallions, 3 years old and upwards, 13.2 and not exceeding 14.2 hands	1	
	Extra stock	1	
		—	2

COBS.

66.	Riding cob or pony, not eligible by pedigree or type for any of the other pony classes, from 13.2 to 15 hands		6

HIGHLAND PONIES.

67.	Stallions, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland section of the Polo Pony Stud-Book	4	
68.	Entire colts, foaled in 1904 or 1905	4	
	Extra stock	1	
69.	Mares, 3 years old or upwards, not exceeding 14.2 hands, yeld or with foal at foot, entered or accepted for entry in the Highland section of the Polo Pony Stud-Book	4	
		—	13

SHETLAND PONIES.

70.	Stallions, not exceeding 10½ hands, foaled before 1903		
71.	Entire colts, not exceeding 10½ hands, foaled in 1903 or 1904		
72.	Mares, not exceeding 10½ hands, with foal at foot		
73.	Yeld mares, not exceeding 10½ hands		
74.	Fillies, not exceeding 10½ hands, foaled in 1903 or 1904		
		—	31

DRIVING COMPETITIONS.

75.	Yeld mares, fillies, or geldings, any age, in harness, 15 hands and upwards (5)		
76.	Yeld mares, fillies, or geldings, any age, in harness, under 15 hands (6)		
	Extra stock		
			258

JUMPING.

1.	Horses or ponies, any height	15	
2.	Horses or ponies, any height—handicap	13	
3.	Horses or ponies, any height—handicap	10	
		—	38

3. SHEEP.

BLACKFACED.

77.	Tups above one shear	11	
78.	Shearling tups	39	
79.	Ewes above one shear, with lambs	12	
80.	Shearling ewes or gimmers	15	
		—	77

CHEVIOT.

81.	Tups above one shear	15	
82.	Shearling tups	15	
83.	Ewes above one shear, with lambs	9	
84.	Shearling ewes or gimmers	12	
		—	51

BORDER LEICESTER

85. Tups above one shear	5	
86. Shearling tups	27	
87. Ewes above one shear	11	
88. Shearling ewes or gimmers	18	
		61

HALF-BRED.

89. Tups above one shear	2	
90. Shearling tups	15	
91. Ewes above one shear	7	
92. Shearling ewes or gimmers	4	
93. Three ewe lambs	10	
		38

SHROPSHIRE.

94. Tups above one shear	2	
95. Shearling tups	5	
96. Ewes above one shear	3	
97. Shearling ewes or gimmers	4	
		14

OXFORD DOWNS.

98. Shearling tups	13	
99. Shearling ewes or gimmers	8	
		21

SUFFOLK.

100. Shearling tup	1	
101. Shearling ewes or gimmers	10	
102. Three ewe lambs	3	
		14

EXTRA SECTIONS.

103. Fat lambs, any breed or cross	13	
Extra stock	2	
		15
		291

4. SWINE

104. Boars, large white breed		
105. Sows, large white breed		
106. Pairs of boars not above 8 months old, large white breed		
107. Pairs of gelts not above 8 months old, large white breed	5	
108. Boars, Berkshire breed	6	
109. Sows, Berkshire breed	6	
110. Pairs of boars not above 8 months old, Berkshire breed	4	
111. Pairs of gelts not above 8 months old, Berkshire breed	7	
		40

5. POULTRY.

1–88. Poultry	438

6. DAIRY PRODUCE.

1. Powdered butter, not less than 7 lb.	13	
2. Fresh butter, 3 1-lb. rolls	20	
3. Cheddar cheese, 56 lb. and upwards	17	
4. Flat white cheese, 40 lb. and upwards	7	
5. Cheese, 14 lb. and under	15	
		72

ABSTRACT.

	No. of Entries.
1. Cattle	253
2. Horses	258
3. Sheep	291
4. Swine	40
5. Poultry	438
6. Dairy produce	72

The following table gives a comparative view of the entries of cattle, horses, sheep, swine, poultry, dairy produce, and implements, of the value of the premiums offered, and of the receipts at the entrance-gates, grand stands, and for catalogues at the Shows which have been held in the Border District:—

Year and Place.	Cattle.	Horses.	Sheep.	Swine.	Poultry.	Dairy Produce.	Implements.	Premiums.	Receipts.
1832, Kelso	88	18	89	16	...	..	11	£530	£129
1841, Berwick	175	96	209	25	.	..	60	1050	410
1854, Do	179	141	358	54	87		357	1500	805
1863, Kelso	245	127	276	49	87	.	1101	1300	1423
1872, Do.	274	214	269	36	216		1777	1888	2171
1880, Do.	275	226	224	23	202		1578	2671	1664
1889, Melrose	271	243	290	42	220	51	1288	2276	2214
1898, Kelso	244	270	366	25	335	38	1933	2855	2196
1906, Peebles	253	258	291	40	438	72	1658	3072	2596

A Comparison.

The following figures, relating to some of the most successful Shows the Society has held, will be perused with interest:—

	Cattle.	Horses.	Sheep.	Swine.	Poultry.	Total Live Stock.	Implements.	Premiums.	Drawings at Show.	Profit.
Glasgow, 1867	286	212	257	58	150	963	1344	£1600	£3,005	£1307
Edinburgh, 1869	310	212	340	22	239	1123	1900	1600	4,078	2067
Glasgow, 1875	411	405	296	48	479	1639	2220	2665	6,231	3316
Edinburgh, 1877	339	342	305	30	234	1250	2292	2714	6,734	3710
Edinburgh, 1884	580	453	493	35	253	1814	2282	4343	6,548	1855
Edinburgh, 1893	380	349	294	31	360	1414	2268	2600	4,918	2323
Aberdeen, 1894	314	324	184	34	365	1221	2532	2440	5,121	1678
Perth, 1896	292	258	204	20	374	1148	1945	2205	4,788	2511
Glasgow, 1897	317	350	245	30	275	1217	2227	2897	4,392	2021
Edinburgh, 1899	386	518	477	46	551	1978	2585	3844	10,285	3911
Stirling, 1900	321	288	369	28	457	1463	2095	2915	4,305	1078
Inverness, 1901	360	257	204	22	499	1340	1460	2806	2,485	99
Aberdeen, 1902	330	253	243	42	475	1343	1988	2796	4,413	1604
Perth, 1904	348	315	283	35	413	1394	1972	3058	4,993	1828
Glasgow, 1905	310	462	284	60	534	1750	1875	3702	4,473	1203
Peebles, 1906	253	258	291	40	438	1280	1658	3072	2,596	416

Cattle.

The display of cattle was of high average merit, and quite satisfactory with regard to the number of entries. As to the total number of entries of cattle, the Show stands fourth amongst the nine shows which have been held in the Border district. In the classes of Shorthorns there were 69 entries, and in respect of merit the breed was thoroughly well represented. In a very good class of aged bulls Sir Richard Cooper, Bart., came first with "Meteor" 86,631 (fig. 62), a level, well-proportioned three-year-old white, bred by Mr C. M. Richardson, Noyadd Wilwym, Cardiganshire, got by "Moonlight" 75,110, and out of a cow by "Major" 59,419. This handsome bull won both the Shorthorn Society's £25 special prize for the best Shorthorn bull and the President's Champion Medal for the best animal of the breed in the Show. For his honours "Meteor" was very closely run by Mr A. T. Gordon's stylish two-year-old bull "Fascinator" 88,569. The female Shorthorn classes were quite creditably filled. The special prize of £25 given by the Shorthorn Society for the best Shorthorn cow or heifer was won by Mr George Harrison, Gainford Hall, Darlington, for his well-known prize-winning cow "Ursula Raglan," bred by Mr A. Dobson, Williamsgill, Temple Sowerby.

The Aberdeen-Angus breed of cattle made a small but very satisfactory display with regard to merit. The President's Champion Medal for the best animal of the breed went to Mr J. Ernest Kerr, Harviestoun Castle, Dollar, for his extremely neat, thick, level three-year-old cow "Juana Erica" 36,285 (fig. 63), bred by the Dowager-Countess of Seafield, got by the bull "Premier of Finlarig" 17,059, out of "Ettina Erica" 27,485. The Ballindalloch Challenge Cup, for the best bull of the Aberdeen-Angus breed, went to Sir George Macpherson Grant, Bart., for his handsomely-shaped five-year-old bull "Jeshurun" 19,257, bred by himself, and got by "Eblito" 14,306.

Galloway cattle were also few in number, but quite up to their usual high standard in merit. The President's Champion Medal for the best animal of this breed went to Mr W. M. Neilson of Queenshill, Ringford, for the well-formed five-year-old bull "Campfollower 3rd of Stepford" 8407 (fig. 64), bred by Mr D. Brown, Stepford, Auldgirth, got by "Great Scot" 6489, out of "Edie of Durhamhill" 14,926.

As usual, Highland cattle, of which there were 52 entries, made an exceedingly attractive appearance in the showyard. In a very fine class of old bulls the first prize went to "Lord Clyde" 2034 (fig. 65), an exceptionally handsome three-year-old brindled bull, owned by Bullough's Trustees, Meggernie Castle, and bred by the late Earl of Southesk, got by "Barguillean"

1632, out of "Caroline Clare" 2934. This stylish bull won the President's Champion Medal for the best animal of the breed. The classes of Highland cows and heifers were specially well filled.

Most of the classes of Ayrshire cattle were small, but, particularly amongst the cows, a number of excellent representatives of the breed were exhibited. The President's Champion Medal for the best animal of the Ayrshire breed went to Mr Alexander Cross of Knockdon for his good-looking three-year-old white cow "Lady Diana" 16,726 (fig. 66). This fine cow was bred at Knockdon, got by "King's Knight" 4888, out of "Lady Jane" 13,820.

Horses.

Of the display of Clydesdale horses, it is sufficient to say that the high standard of recent years was thoroughly well maintained. In most of the classes there was a fair number of entries, and, all over, the character of the animals was highly creditable. The President's Champion Medal for the best Clydesdale stallion or colt went to Messrs A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, for their handsomely-formed two-year-old colt "Scottish Crest" 13,182 (fig. 67). This exceptionally promising colt was bred by Messrs Wright & Sons, Silloth, got by "Baron's Pride" 9122, and out of "Sea-breeze" 15,902.

The classes of Draught Geldings were small, but most of the animals were of satisfactory form and strength. The President's Champion Medal for the best Draught Gelding was won by Mr William Clark, Netherlea, Cathcart, for his good-looking six-year-old brown gelding "Best of All" (fig. 68), bred in Morayshire.

Clydesdale Mares and Fillies made a very fine appearance all through. The President's Champion Medal for the best Clydesdale female was won by Mr J. Ernest Kerr, Harviestoun Castle, Dollar, for his valuable six-year-old mare "Pyrene" (fig. 69), bred by Mr W. P. Gilmour, Balmangan, Kirkcudbright, got by "Baron's Pride" 9122, and out of "Missie of Balmangan" 14,226.

Although the classes for Hunting horses were not large, they contained a number of animals of considerable merit. The President's Champion Medal for the best Hunter went to Messrs T. & H. Ward, Pinchinthorpe, Great Ayton, for a good-looking five-year-old gelding named "Ireland" (fig. 70), bred in the Emerald Isle.

Hackney horses were also few in number, but were of decidedly high average merit. Mr Arthur Hall, Copmanthorpe Grange, York, won the President's Champion Medal for the best Hackney with his fine two-year-old colt "Copmanthorpe Performer" (fig. 71), bred by Mr G. Hall, Bishop Wilton, Wilberfoss, York, got by "Garton Duke of Connaught" (3009), out of "Copmanthorpe Lily" by "Langton" 6078.

The classes of Ponies were exceptionally small, but most of the animals were of quite satisfactory merit. The President's Champion Medal for the best pony was won by Mr J. Ernest Kerr, Harviestoun Castle, with his attractive three-year-old bay stallion "Sir Archie" (fig. 72), bred by Sir G. Greenall, Bart., by "Sir Gibbie" 1612, and out of "Ailette" 13.219.

Unfortunately only two Polo Ponies were entered, the President's Champion Medal going to Mr F. W. Chance, M.P., Morton, Carlisle, for his seven-year-old chestnut stallion "White Mask" 190 (fig. 73).

In the class for Riding Cobs not eligible for any of the other classes there were six entries, and most of the animals were of a useful stamp. The President's Champion Medal for the best Cob was won by the Earl of Minto with "Coronation" (fig. 74), a very useful four-year-old mare bred by his lordship.

The classes of Highland Ponies were also smaller than could have been wished, but with regard to merit they were, on the whole, creditable. The President's Champion Medal for the best Highland pony went to Lord Arthur Cecil for his five-year-old stallion "MacNeil" (fig. 75), of unknown breeding.

As is their wont, Shetland Ponies made an exceedingly attractive display, all the classes being fairly well filled. Mr R. W. R. Mackenzie, Earlshall, Leuchars, won the President's Champion Medal here for his stylish six-year-old stallion "Bellman" (fig. 76), bred by himself, got by "Vespa" 166, and out of "Belle of Bressay" 1192.

The Driving classes were small, but contained two or three valuable animals. The President's Champion Medal here went to Mr T. C. M'Kibbin, The Heaning, Windermere, for his five-year-old chestnut gelding "Langton Gelding" (fig. 77), got by "Langton" 6078.

Sheep, Swine, &c.

All over, the show of Sheep was of a high order. The Blackface breed was exceptionally well represented. The winners of the President's Champion Medals are shown in figs 78, 79, 80, 81, 82, 83, and 84.

There was a small but very good show of Swine. The President's Champion Medal went to Mr Gunn, Craigcrook Farm, Blackhall, Edinburgh, for his handsome large white sow "Walton Beauty" 13,038 (fig. 85).

The exhibits of Dairy Produce were not numerous, but the quality was good. There was an excellent show of Poultry.

PREMIUMS AWARDED BY THE SOCIETY IN 1906.

1.—PEEBLES SHOW

17th, 18th, 19th, and 20th July 1906.

ABBREVIATIONS.—V., *Very Highly Commended.* H., *Highly Commended.* C., *Commended.*

CATTLE

SHORTHORN.

PRESIDENT'S CHAMPION MEDAL for best Shorthorn.

No. 3 Sir Richard Cooper, Bart., Shenstone Court, Lichfield, "Meteor" (86,631).

Best Shorthorn Bull in the Show—£25, given by the Shorthorn Society.

No. 3 Sir Richard Cooper, Bart., Shenstone Court, Lichfield, "Meteor" (86,631).

Breeder of best Bull of any age in Classes 1, 2, *and* 3—The Silver Medal.

No. 3 C. Morgan Richardson, Noyadd Wilwym, Cardiganshire.

CLASS 1. BULL, calved before 1904.—Premiums, £15, £10, £5, and £3.

1st	No. 3	Sir Richard Cooper, Bart., Shenstone Court, Lichfield. "Meteor" (86,631).
2nd	No. 7	John Ross, Meikle Tarrel, Fearn, "Ajax" (80,320).
3rd	No. 11	Robert Taylor, Pitlivie, Carnoustie, "Regal Beaufort" (89,803).
4th	No. 1	William Bell, Ratcheugh, Alnwick, "Baron Hopeful" (82,802).
V	No. 9	Duncan Stewart, Millhills, Crieff, "Royal Eclipse" (87,179).
H	No. 4	Sir John Gilmour, Bart., Montrave, Leven, Fife, "Broadhooks Conqueror" (85,451).
C	No. 5	George Harrison, Gainford Hall, Darlington, "Pioneer" (86,822).

CLASS 2. BULL, calved in 1904.—Premiums, £15, £10, £5, and £3.

1st	No. 13	Alex. T. Gordon. Combscauseway, Insch, "Fascinator" (88,569).
2nd	No. 20	Wm. T. Malcolm, Dunmore, by Larbert, "Ballachraggan Admiral" (87,842).
3rd	No. 21	Lord Polwarth, Mertoun, St Boswells, "British Renown."
4th	No. 15	George Harrison, Gainford Hall, Darlington, "Royal Ensign" (89,924).
V	No. 17	A. W. & A. M. Law, Mains of Sanquhar, Forres, "Stoneytown Monarch" (90,245).
H	No. 22	John Ross, Meikle Tarrel, Fearn, "Sarasate."

CLASS 3. BULL, calved in 1905.—Premiums, £12, £8, £4, and £2.

1st	No. 31	A. Robertson, Haugh of Ballechin, Ballinluig, "Avondale."
2nd	No. 28	A. W. & A. M. Law, Mains of Sanquhar, Forres, "Pride of Holl."
3rd	No. 33	John Ross, Meikle Tarrel, Fearn, "Millcraig Margrave."
4th	No. 26	J. Douglas Fletcher of Rosehaugh, Avoch, "Sunguard."
V	No. 35	Robert Taylor, Pitlivie, Carnoustie, "Baron Lindis Fame."
H	No. 27	George Harrison, Gainford Hall, Darlington, "Mucklethwaite Magnate 2nd."
C	No. 30	Wm. T. Malcolm, Dunmore, by Larbert, "Lord Fauntleroy."
C	No. 32	William John Robertson, Mounteagle, Fearn, Ross-shire, "Millcraig Moonstone."

Best Shorthorn Female in the Show—£25, given by the Shorthorn Society.

No. 40	George Harrison, Gainford Hall, Darlington, "Ursula Raglan."

CLASS 4. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

1st	No. 40	George Harrison, Gainford Hall, Darlington, "Ursula Raglan."
2nd	No. 42	Robert Taylor, Pitlivie, Carnoustie, "Silver May."
3rd	No. 37	The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith, "Bell Heather."
4th	No. 41	Lord Polwarth, Mertoun House, St Boswells, "Cowslip Bloom."
V	No. 39	A. G. Maxtone Graham, Redgorton, Perth, N.B., "Bride of Lincoln."

CLASS 5. HEIFER, calved in 1904.—Premiums, £10, £5, £3, and £2.

1st	No. 49	A. Robertson, Haugh of Ballechin, Ballinluig, "Royal Lily."
2nd	No. 46	Wm. T. Malcolm, Dunmore, by Larbert, "Lowland Dream."
3rd	No. 48	Lord Polwarth, Mertoun House, St Boswells, "Bonnie Gowan."
4th	No. 43	Rt. Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk, "Lady Gordon 2nd."

CLASS 6. HEIFER, calved in 1905.—Premiums, £10, £5, £3, and £2.

1st	No. 69	Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Rosebud 2nd."
2nd	No. 56	George Harrison, Gainford Hall, Darlington, "Montrave Wondrous."
3rd	No. 57	F. Godfrey Hill, Little Haddo, Newburgh, Aberdeen, "Royal Rose."
4th	No. 59	H. M. S. Mackay, Burgie Lodge Farm, Elgin, "Golden Pippin."
V	No. 55	Alex. T. Gordon, Combscauseway, Insch, "Countess Lavender."
H	No. 58	H. M. S. Mackay, Burgie Lodge Farm, Elgin, "Golden Princess."
H	No. 67	Captain A. Stirling of Keir, Dunblane, "Keir Julia."
C	No. 60	Wm. T. Malcolm, Dunmore, by Larbert, "Bessborough Belle 5th."
C	No. 63	Lord Polwarth, Mertoun House, St Boswells, "Mertoun Ruby."

ABERDEEN-ANGUS.

PRESIDENT'S CHAMPION MEDAL for best Aberdeen-Angus Animal.

No. 95	J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

Best Bull of any age in Classes 7, 8, and 9—Ballindalloch Challenge Cup, value £50, given by Sir George Macpherson Grant, Bart.

No. 71	Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Jeshurun" (19,257).

Breeder of best Bull of any age in Classes 7, 8, *and* 9—The Silver Medal.

No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch.

Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.

No. 71 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch.

Best Breeding Animal of the Breed in the Showyard—Champion Gold Medal, given by the Polled Cattle Society.

No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

CLASS 7. BULL, calved before 1st December 1903.—Premiums, £15, £10, £5, and £3.

1st	No. 71	Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Jeshurun" (19,257).
2nd	No. 73	George Smith Grant, Auchorachan, Glenlivet, "Prince Forest" (21,106)
3rd	No. 76	John Macpherson, Mulben, Keith, "Khartoum of Ballindalloch" (20,732).
4th	No. 75	Alexander M'Laren, Auchnaguie, Tullymet, Ballinluig, N.B., "Erello" (21,861).
V	No. 72	Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Everard of Ballindalloch" (21,902).
H	No. 74	R. Wylie Hill, Home Farm, Balthayock, Perth, "Enochdhu" (21,848).

CLASS 8. BULL, calved on or after 1st December 1903.—Premiums, £15, £10, £5, and £3.

1st	No. 80	Garden A. Duff, Hatton Castle, Home Farm, Turriff, "Eblis" (23,069).
2nd	No. 81	George Smith Grant, Auchorachan, Glenlivet, "Ephorus" (23,139).
3rd	No. 77	James Beddie, Banks, Strichen, "Argus of Drip" (22,871).
4th	No. 82	His Majesty the King, Balmoral, Ballater, "Pridor" (23,708).
V	No. 78	James Calder of Ardargie, Forgandenny, "Elchi" (23,093).
H	No. 83	John Murray, Munnieston, Thornhill, Stirling, "Erica Enterprise" (23,150).

CLASS 9. BULL, calved on or after 1st December 1904.—Premiums, £12, £8, £4, and £2.

1st	No. 85	Donald M. Macrae, Stenhouse, Thornhill, Dumfriesshire, "Everlasting of Ballindalloch" (24,435).
2nd	No. 84	John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Blizzard" (24,175).
3rd	No. 87	William Watt, Middlefield, Cupar, "Passionest" (24,844).
4th	No. 86	W. W. Tait, Bowtrees, Larbert, "Enterprise of Auchterarder" (24,370).

Best Cow of any age in Class 10—Ballindalloch Challenge Cup, value £50, given by the late Mr C. Macpherson Grant of Drumduan.

No. 95 J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).

Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.

No. 95 Dowager-Countess of Seafield, Cullen House, Cullen.

CLASS 10. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

1st	No. 95	J. E. Kerr, Harviestoun Castle, Dollar, "Juana Erica" (36,285).
2nd	No. 91	W. S. Ferguson, Kinochtry, Coupar-Angus, "Mistress Nelly" (32,975).
3rd	No. 94	R. Wylie Hill, Home Farm, Balthayock, Perth, "Ismene" (34,051).

4th No. 92 W. S. Ferguson, Kinochtry, Coupar-Angus, "Moss Rose of Kinochtry" (35,466).
V No. 93 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Maidment of Aberlour" (37,288).
H No. 89 James Beddie, Banks, Strichen, "Craigo VII. of Banks" (35,091).

EXTRA STOCK.

The following was Very Highly Commended, and a Medium Silver Medal awarded.

No 96 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Pride of Honour" (33,608).

CLASS 11. HEIFER, calved on or after 1st December 1903.—Premiums, £10, £5, £3, and £2.

1st No. 103 His Majesty the King, Balmoral, Ballater, "Gwitch" (36,695).
2nd No. 102 Geo. Smith Grant, Auchorachan, Glenlivet, "Pride of Spey 4th" (37,292).
3rd No. 101 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Pride B. 6th of Auchorachan" (37,440).
4th No. 104 John Macpherson, Mulben, Keith, "Pride of Aberdeen 257th" (37,714).
V No. 97 T. H. Bainbridge, Eshott Hall, Felton, Northumberland, "Elvena" (37,746).
H No. 98 James Beddie, Banks, Strichen, "Craigo XI." (36,826).
C No. 99 W. S. Ferguson, Kinochtry, Coupar-Angus, "Pride Marian" (37.270).
C No. 100 W. S. Ferguson, Kinochtry, Coupar-Angus, "Ruby Ring" (38,086).

CLASS 12. HEIFER, calved on or after 1st December 1904.—Premiums, £10, £5, £3, and £2.

1st No. 114 James Whyte, Hayston, Glamis, "Bashful Bet" (39.794).
2nd No. 110 Sir George Macpherson Grant, Bart., The Castle, Ballindalloch, "Evie of Ballindalloch" (39,028).
3rd No. 109 John R. Findlay of Aberlour, Aberlour Home Farm, Aberlour, "Prize" (38,913).
4th No. 107 James Beddie, Banks, Strichen, "Demora Vine 7th" (38,538).
V No. 112 J. E. Kerr, Harviestoun Castle, Dollar, "Ellenora" (39,212).
H No. 106 T. H. Bainbridge, Eshott Hall, Felton, Northumberland, "Coquette of Eshott" (38,484).
C No. 111 R. Wylie Hill, Home Farm, Balthayock, Perth, "Myrtle of Balthayock" (39,131).
C No. 115 James Whyte, Hayston, Glamis, "Beauty 20th of Hayston" (39,796).

GALLOWAY.

PRESIDENT'S CHAMPION MEDAL for best Galloway.

No. 120 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Campfollower 3rd of Stepford" (8407).

Breeder of best Bull of any age in Classes 13, 14, *and* 15—The Silver Medal.

No. 120 David Brown, Stepford, Auldgirth, Dumfries.

CLASS 13. BULL, calved before 1st December 1903.—Premiums, £15, £10, £5, and £3.

1st No. 120 Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Campfollower 3rd of Stepford" (8407).
2nd No. 119 John M'Cormick, Lochenkit, Corsock, Dalbeattie, "Othello of Kilquhanity" (8469).
3rd No. 116 John Cunningham, Tarbreoch, Dalbeattie, "Chancellor" (9010).
4th No. 117 C. R. Dudgeon, Mains of Cargen, Dumfries, "Chief III." (8892).

Class 14. BULL, calved on or after 1st December 1903.— Premiums, £15, £10, £5, and £3.

1st	No. 122	The Countess of Carlisle, Naworth Castle, Carlisle, "Bruce of Naworth," late "Kuroki of Craig Houses" (Eng. Herd-Book, 62; Scot., 9308).
2nd	No. 123	C. R. Dudgeon, Mains of Cargen, Dumfries, "Baron Wilson of Cargen" (9159).
3rd	No. 125	Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Orion" (9188).
4th	No. 124	Robert Graham, Auchengassel, Twynholm, "Black Pearl" (9190).

Class 15. BULL, calved on or after 1st December 1904.— Premiums, £12, £8, £4, and £2.

1st	No. 133	James Wilson, Tundergarth Mains, Lockerbie, "Warcry" (9566).
2nd	No. 132	Thomas Graham, Marchfield, Dumfries, "Banker" (9509).
3rd	No. 128	The Duke of Buccleuch, K.G., Drumlanrig Castle, Thornhill, Dumfriesshire, "Romulus of Drumlanrig" (9421).
4th	No. 131	Robert Graham, Auchengassel, Twynholm, "Historian of Auchengassel" (9492).
V	No. 130	A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Marchfield Critic" (9628).

Class 16. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

1st	No. 138	John Cunningham, Tarbreoch, Dalbeattie, "Netty 32nd of Tarbreoch" (17,996).
2nd	No. 141	Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Joan of Queenshill" (17,454).
3rd	No. 135	Sir Robert Buchanan-Jardine of Castlemilk, Bart., Lockerbie, "Lady Alice of Castlemilk" (17,903).
4th	No. 134	Sir Robert Buchanan-Jardine of Castlemilk, Bart., Lockerbie, "Alice II. of Castlemilk" (16,352).
V	No. 137	John Cunningham, Tarbreoch, Dalbeattie, "Doris" (16,912).
H	No. 140	Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Marionette of Glenlair" (16,288).
C	No. 139	Thomas Graham, Marchfield, Dumfries, "Lady Grace III." (17,485).

Class 17. HEIFER, calved on or after 1st December 1903.— Premiums, £10, £5, £3, and £2.

1st	No. 149	Walter Montgomerie Neilson of Queenshill, Ringford, R.S.O., "Joyce of Queenshill" (18,437).
2nd	No. 147	Robert Graham, Auchengassel, Twynholm, "Gipsy Queen of Auchengassel" (18,467).
3rd	No. 146	A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Graceful" (18,468).
4th	No. 150	James Wilson, Tundergarth Mains, Lockerbie, "Clara 8th" (18,407).
V	No. 145	John Cunningham, Tarbreoch, Dalbeattie, "Louisa 5th of Tarbreoch" (18,418).
H	No. 148	Thomas Graham, Marchfield, Dumfries, "Lady Isabella II. of Stepford" (18,525).

Class 18. HEIFER, calved on or after 1st December 1904.— Premiums, £10, £5, £3, and £2.

1st	No. 156	A. H. Fox-Brockbank, The Croft, Kirksanton, Cumberland, "Jacimine" (18,939).
2nd	No. 155	The Duke of Buccleuch, K.G., Drumlanrig Castle, Thornhill, Dumfriesshire, "Pride 37th of Drumlanrig" (18,765).
3rd	No. 158	Major Wedderburn Maxwell, Glenlair, Dalbeattie, "Eileen 3rd of Glenlair" (18,871).
4th	No. 159	James Wilson, Tundergarth Mains, Lockerbie, "May Margret" (18,941).

HIGHLAND.

PRESIDENT'S CHAMPION MEDAL for best Highland Animal.

No. 160 Bullough's Trustees, Meggernie Castle, Aberfeldy, "Lord Clyde" (2034).

Breeder of best Bull of any age in Classes 19, 20, *and* 21—The Silver Medal.

No. 160 The late Earl of Southesk, Kinnaird Castle, Brechin.

CLASS 19. BULL, calved before 1904.—Premiums, £15, £10, £5, and £3.

1st No. 160 Bullough's Trustees, Meggernie Castle, Aberfeldy, "Lord Clyde" (2034).
2nd No. 165 D. A. Stewart, Ensay, Obbe, Portree, "Morair-nan-Eilean" (2051).
3rd No. 166 Allan Gilmour Thom, Island of Canna, Oban, "Waverley" (2086).
4th No. 162 Kenneth MacDouall of Logan, Stranraer, "William of Farr" (1747).
V No. 164 Thomas A. Nelson, Achnacloich, Connel, Argyllshire, "Malachi" (1870).
H No. 163 W. D. Mackenzie of Farr and Newbie, Daviot, Inverness, "Calum Ban of Farr" (1783).
C No. 161 J. R. Moreton Macdonald of Largie, Largie Castle, Tayinloan, Argyllshire, "Iain-n-Laragaidh" (1902).

CLASS 20. BULL, calved in 1904.—Premiums, £15, £10, £5, and £3.

1st No. 169 The Earl of Southesk, Kinnaird Castle, Brechin, "Saladin" (2067).
2nd No. 168 William Sopper of Dunmaglass, Daviot, "King Alfred" (2024).
3rd No. 167 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Valentine XXIV." (2082).
4th No. 170 D. A. Stewart, Ensay, Obbe, Portree, "Morair Og."

CLASS 21. BULL, calved in 1905.—Premiums, £12, £8, £4, and £2.

1st No. 172 Sir Donald Currie, G.C.M.G., of Garth and Glenlyon, Balnacraig, Fortingall, "Senalair Ghart."
2nd No. 171 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Cennard-na-Buaile of Atholl."
3rd No. 179 The Earl of Southesk, Kinnaird Castle, Brechin, "Gulliver."
4th No. 175 Thomas Arthur Nelson, Achnacloich, Connel, Argyllshire, "Ceatharnach of Achnacloich."
V No. 174 Colonel Malcolm of Poltalloch, C.B., Poltalloch, Lochgilphead, "A Giomanach."
H No. 178 William Sopper of Dunmaglass, Daviot, "Ossian."

CLASS 22. COW, of any age, in Milk.—Premiums, £12, £8, £4, and £2.

1st No. 189 D. A. Stewart, Ensay, Obbe, Portree, "Laochag Bhuidhe IV." (6584).
2nd No. 181 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Bean Odhar of Atholl" (5401).
3rd No. 184 The Countess-Dowager of Seafield, Castle Grant, Grantown, Strathspey, "Tina II. of Castle Grant" (5839).
4th No. 188 William Sopper of Dunmaglass, Daviot, "Madam Luna" (5289).
V No. 185 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "May Queen V." (4796).
H No. 186 Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Minne of Ardtornish" (5253).

CLASS 23. HEIFER, calved in 1903.—Premiums, £10, £5, £3, and £2.

1st No. 195 The Countess-Dowager of Seafield, Castle Grant, Grantown, Strathspey, "Empress Victoria" (6513).
2nd No. 191 The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Te Riabhach 7th of Atholl."
3rd No. 192 James D. Graham, Airthrey Castle, Bridge of Allan, "Ban Righ."
4th No. 199 [illegible]
V [illegible]
H No. [illegible]
C No. 190 John Stirling Ainsworth, M.P., Ardanaiseig, Kilchrenan, "Capleadh IV. of Ardanaiseig."

CLASS 24. HEIFER, calved in 1904.—Premiums, £10, £5, £3, and £2.

1st	No. 209	D. A. Stewart, Ensay, Obbe, Portree, "Laochag."
2nd	No. 201	The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Te Riabhach 8th of Atholl."
3rd	No. 204	John M'Donald, Duntulm, Portree, "Dosach of Duntulm."
4th	No. 210	The Duke of Sutherland, K.G., Dunrobin Castle, Golspie, "Shanag II. of Dunrobin."
V	No. 202	The Duke of Atholl, K.T., Blair Castle, Blair-Atholl, "Donnag Riabhach 4th of Atholl."
H	No. 208	Thomas Valentine Smith of Ardtornish, Morvern, R.S.O., "Sgiathach 50th."
C	No. 203	Bullough's Trustees, Meggernie Castle, Aberfeldy, "Mairi Og."

AYRSHIRE.

PRESIDENT'S CHAMPION MEDAL for best Ayrshire.

No. 231 Alex. Cross of Knockdon, Maybole, "Lady Diana" (16,726).

Breeder of best Bull of any age in Classes 25, 26, *and* 27—The Silver Medal.

No. 215 Robert Forrest, Knockinlaw, Kilmarnock.

CLASS 25. BULL, calved before 1904.—Premiums, £12, £8, and £4.

1st	No. 212	Thomas Barr, Monkland, Kilmarnock, "Zomo-sal" (5887).
2nd	No. 213	Jas. Howie, Hillhouse, Kilmarnock, "Wynflette" (5441).
3rd	No. 214	Robert Osborne, Morton Mains, Thornhill, "Morton Mains Epicarmus" (5793).

CLASS 26. BULL, calved in 1904.—Premiums, £10, £7, and £3.

1st	No. 215	Jas. Howie, Hillhouse, Kilmarnock, "Spicey Sam" (5927).
2nd	No. 216	Robert Woodburn, Whitehill, Hurlford, "Rising Sun" (5826).

CLASS 27. BULL, calved in 1905.—Premiums, £8, £5, and £3.

1st	No. 219	Jas. Howie, Hillhouse, Kilmarnock, "Grandeur."
2nd	No. 217	Thomas Barr, Monkland, Kilmarnock, "Guarantee" (6245).
3rd	No. 220	William Murray, Borrow Moss, Wigtown, "Gay Scott."
V	No. 218	Jas. Howie, Hillhouse, Kilmarnock, "Dairy Swell."

CLASS 28. COW, calved before 1903, in Milk.—Premiums, £12, £8, and £4.

1st	No. 228	William Murray, Borrow Moss, Wigtown, "Dairymaid."
2nd	No. 227	Messrs Kerr, Old Graitney, Gretna, "Old Graitney Fairy Like" (17,604).

CLASS 29. COW, in Milk, calved after 1st January 1903.—Premiums, £10, £7, and £3.

1st	No. 230	Alex. Cross of Knockdon, Maybole, "Perfection 3rd" (16,734).
2nd	No. 235	Messrs Kerr, Old Graitney, Gretna, "Old Graitney Soncy 7th" (18,252).
3rd	No. 234	Messrs Kerr, Old Graitney, Gretna, "Old Graitney Queen 2nd" (18,250).
V	No. 241	Jas. M'Alister, Meikle Kilmory, Rothesay, "Lady Mary of Bute."

CLASS 30. COW of any age, in Calf, or HEIFER calved in 1903, in Calf and due to calve within nine months after the Show.—Premiums, £10, £7, and £3.

1st	No. 231	Alex. Cross of Knockdon, Maybole, "Lady Diana" (16,726).
2nd	No. 239	Thomas Barr, Monkland, Kilmarnock, "Brockie."

CLASS 31. HEIFER, calved in 1904.—Premiums, £10, £5, and £3.

1st No. 244 James Howie, Hillhouse, Kilmarnock, "Whinflower."
2nd No. 243 James Howie, Hillhouse, Kilmarnock, "Ruby Rare."
3rd No. 246 Andrew Mitchell, Barcheskie, Kirkcudbright, "Bonny Nancy."
V No. 245 Mrs J. G. Martin, Brandon, Brodick, "Brodick Snowdrop 2nd" (17,552).
H No. 247 William Murray, Borrow Moss, Wigtown, "Highland Mary."

CLASS 32. HEIFER, calved in 1905.—Premiums, £8, £5, and £3.

1st No. 248 Thomas Barr, Monkland, Kilmarnock, "Lady Mary."
2nd No. 253 Robert Woodburn, Whitehill, Hurlford, "Duchess."
3rd No. 251 William Murray, Borrow Moss, Wigtown, "Lady Grace."
V No. 252 Robert Osborne, Morton Mains, Thornhill, "Morton Mains Leila Vieta."
H No. 250 Andrew Mitchell, Barcheskie, Kirkcudbright, "Scotch Flower."

HORSES

FOR AGRICULTURAL PURPOSES.

DRAUGHT STALLIONS.

PRESIDENT'S CHAMPION MEDAL for best Clydesdale Stallion or Colt.

No. 286 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Scottish Crest" (13,182).

Breeder of best Male Animal of any age in Classes 33 *to* 36—The Silver Medal.

No. 286 John Wright & Sons, Silloth Farm, Silloth.

CLASS 33. STALLION, foaled before 1903.—Premiums, £20, £15, £10, and £4.

1st No. 254 Wm. Clark, Netherlea, Cathcart, "Baron's Best" (11,597).
2nd No. 256 Wm. Dunlop, Dunure Mains, Ayr, "Baron o' Buchlyvie" (11,263).
3rd No. 264 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron's Voucher" (12,041).
4th No. 262 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Blackheath" (12,051).
V No. 265 William Renwick, Meadowfield, Corstorphine, "Margrave" (12,240).
H No. 258 John M'Nee, Afton House, Crieff, "Baron M'Nee" (12,462).

CLASS 34. ENTIRE COLT, foaled in 1903.—Premiums, £20, £15, £10, and £4.

1st No. 272 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Warlaby" (12,779).
2nd No. 267 Wm. Clark, Netherlea, Cathcart, "Dunnydeer" (12,557).
3rd No. 273 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron Winsome" (12,475).
4th No. 271 A. M'Robbie, Sunnyside, Aberdeen, "The Comet" (13,224).
V No. 276 D. Riddell, Blackhall, Paisley, "King's Champion."
H No. 268 Robert Dawson, Dovehill, Pollockshaws, "Radium."
C No. 269 Douglas Brothers, Early Pier, Eddleston, "Monrovia" (13,108).

CLASS 35. ENTIRE COLT, foaled in 1904.—Premiums, £20, £12, £8, and £4.

1st No. 286 A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Scottish Crest" (13,182).
2nd No. 285 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Royal Choice" (13,165).
3rd No. 293 Wm. Taylor, Park Mains, Renfrew, "Sir Oliver" (13,209).
4th No. 291 The Executors of the late Thos. Smith, Blacon Point, Chester, "Robin Hood" (13,154).

V	No. 289	A. & W. Montgomery, Netherhall and Banks, Kirkcudbright, "Baron's Honour" (12,847).
H	No. 283	James Kilpatrick, Craigie Mains, Kilmarnock, "Perfect Motion" (13,123).
C	No. 294	Scott Wyllie, Milton of Luncarty, Perth, "Miluccio."

CLASS 36. ENTIRE COLT, foaled in 1905.—Premiums, £15, £10, £6, and £4.

1st	No. 306	A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
2nd	No. 304	A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
3rd	No. 305	A. & W. Montgomery, Netherhall and Banks, Kirkcudbright.
4th	No. 297	Wm. Dunlop, Dunure Mains, Ayr, "Dunure Foreman."
V	No. 296	D. & J. Curr, Red House, Carlisle.
H	No. 295	Wm. Clark, Netherlea, Cathcart.
C	No. 299	William Kennedy, Luce Mains, Ecclefechan.

DRAUGHT GELDINGS.

PRESIDENT'S CHAMPION MEDAL for best Draught Gelding.

No. 310 Wm. Clark, Netherlea, Cathcart, "Best of All."

CLASS 37. DRAUGHT GELDING, foaled before 1903.—Premiums, £10, £5, and £3.

1st	No. 310	Wm. Clark, Netherlea, Cathcart, "Best of All."
2nd	No. 311	James Kilpatrick, Craigie Mains, Kilmarnock.
3rd	No. 308	Wm. C. Bowe, Thorntonloch, Innerwick, "Mace."

CLASS 38. DRAUGHT GELDING, foaled in 1903.—Premiums, £6, £4, and £3.

1st	No. 314	W. C. Bowe, Thorntonloch, Innerwick, "The Major."
2nd	No. 315	Wm. Clark, Wester Bogie, Kirkcaldy, "Alfonso."
3rd	No. 316	Wm. Clark, Netherlea, Cathcart, "Tom."
V	No. 317	J. Ernest Kerr, Harviestoun Castle, Dollar.

CLASS 39. DRAUGHT GELDING, foaled in 1904.—Premiums, £6, £4, and £3.

1st	No. 319	Wm. Clark, Netherlea, Cathcart, "Willie."
2nd	No. 320	J. & W. Meiklem, Begg, Kirkcaldy, "Johnie."
3rd	No. 321	James Tudhope, Nether Fala, Eddleston, "Master Jack."

DRAUGHT MARES AND FILLIES.

PRESIDENT'S CHAMPION MEDAL for best Clydesdale Mare or Filly.

No. 339 J. Ernest Kerr, Harviestoun Castle, Dollar, "Pyrene."

Best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book—Cawdor Challenge Cup, value 50 guineas, given by the Clydesdale Horse Society.

No. 339 J. Ernest Kerr, Harviestoun Castle, Dollar "Pyrene."

Breeder of Best Clydesdale Brood Mare—The Robert Murdoch Prize, value £10.

No. 325 The late Thos. Smith, Blacon Point, Chester.

CLASS 40. MARE of any age, with Foal at foot.—Premiums, £20, £12, £7, and £4.

1st	No. 325	J. Ernest Kerr, Harviestoun Castle, Dollar, "Chester Princess" (16,371).
2nd	No. 323	Robert Forrest, Knockinlaw, Kilmarnock, "Jean of Knockinlaw."
3rd	No. 327	H. B. Marshall of Rachan, Broughton, Peeblesshire, "Mimosa" (16,911).
4th	No. 322	Robert Chapman, Johnston, Gartcosh, "Heather Beauty."
V	No. 326	John M'Nee, Crieff, "Sarah Pride."
H	No. 324	J. Ernest Kerr, Harviestoun Castle, Dollar, "Rosedew" (16,783).
C	No. 329	Lord Polwarth, Mertoun House, St Boswells, "Sturdy Rose."

CLASS 41. YELD MARE, foaled before 1903.—Premiums, £12, £9, £6, and £4.

1st No. 336 Robert Park, Brunstane, Portobello, "Florodora" (16,295).
2nd No. 332 Robert Chapman, Johnston, Gartcosh, "Winsome Baroness."
3rd No. 333 George Findlater, Jerviswood Mains, Lanark, "Lilah."
4th No. 337 D. Riddell, Blackhall, Paisley, "Evelyn."
H No. 334 Sir John Gilmour of Montrave, Bart., Leven, Fife, "Montrave Dorothy" (16,695).

EXTRA STOCK.

The following was Very Highly Commended, and a Medium Silver Medal awarded—

No. 339 J. Ernest Kerr of Harviestoun Castle, Dollar, "Pyrene."

CLASS 42. YELD MARE or FILLY, foaled in 1903.—Premiums, £12, £9, £6, and £4.

1st No. 342 J. Ernest Kerr, Harviestoun Castle, Dollar, "Veronique."
2nd No. 345 Seaham Harbour Stud, Ltd., The Dene, Seaham Harbour, "Silver Princess."
3rd No. 340 Douglas Bros., Early Pier, Eddleston, Mare, "Pamela."
4th No. 341 Wm. Dunlop, Dunure Mains, Ayr, "Fair Lothian."
C No. 346 James Tudhope, Nether Fala, Eddleston, Mare, "Miss Hilda."

CLASS 43. FILLY, foaled in 1904.—Premiums, £12, £9, £6, and £4.

1st No. 357 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Baron's Brilliant."
2nd No. 358 William Neilson, Haining Valley, Linlithgow, "Hilda."
3rd No. 353 J. Ernest Kerr, Harviestoun Castle, Dollar, "Delicia."
4th No. 351 Sir John Gilmour, Bart. of Montrave, Leven, "First Choice."
V No. 349 Francis Elliot, Middlestots, Duns, "Lady Baron Airies."
H No. 347 Robert Chapman, Johnston, Gartcosh, "Evelyn Black."
C No. 352 R. & J. Kerr, Lochlane, Crieff, "Lady Lindo."

CLASS 44. FILLY, foaled in 1905.—Premiums, £12, £9, £6, and £4.

1st No. 364 J. Ernest Kerr, Harviestoun Castle, Dollar, "Marilla."
2nd No. 365 J. Ernest Kerr, Harviestoun Castle, Dollar, "Fenella."
3rd No. 363 Sir John Gilmour, Bart. of Montrave, Leven, Fife, "Brenda of Montrave."
4th No. 367 H. B. Marshall of Rachan, Broughton, Peeblesshire, "Lady Newton II."
V No. 370 D. Riddell, Blackhall, Paisley.
H No. 361 J. Douglas Fletcher of Rosehaugh, Avoch, "Primora."
C No. 362 J. Douglas Fletcher of Rosehaugh, Avoch, "Black Baroness."

HUNTERS.

PRESIDENT'S CHAMPION MEDAL for best Hunter.

No. 409 Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Ireland."

Best Hunter Filly in Classes 45, 46, and 47, registered or entered in the Hunter Stud-Book—Gold Medal, value £10, 10s., given by the Hunter Improvement Society.

No. 373 William Lee Carlyle, Templehill, Ecclefechan, Filly, "Peg the Rake."

CLASS 45. COLT, GELDING, or FILLY, foaled in 1905, the produce of thoroughbred Stallions, out of Mares of any breed.—Five Prizes—£10, £7, £5, £2, and £1, given by Sir John Gilmour of Montrave, Bart.

1st No. 373 William Lee Carlyle, Templehill, Ecclefechan, Filly, "Peg the Rake."
2nd No. 377 Earl of Rothes, Leslie House, Leslie, Fife, Colt, "Wotan" (3018).
3rd No. 372 J. A. Campbell, Craigie House, Ayr, Filly.
4th No. 376 Earl of Rothes, Leslie House, Leslie, Fife, Colt, "Briony."
5th No. 374 Captain Clayhills Henderson, R.N., of Invergowrie, Dundee, Filly, "Barlette."

CLASS 46. FILLY, MARE, or GELDING, for field, foaled in 1904, *in hand.*—Premiums, £8, £5, and £3.

1st	No. 381	Lewis Beattie, Mossknowe, Canonbie, Gelding, "Gilnockie" (2122).
2nd	No. 380	Lewis Beattie, Mossknowe, Canonbie, Gelding, "Starlight."
3rd	No. 385	Miss Heron Maxwell, Deanburnhaugh, Denholm, Roxburghshire, Gelding, "Monk's Croft."
H	No. 384	Captain Clayhills Henderson, R.N., Invergowrie, Dundee, Filly, "Spinner."

CLASS 47. YELD MARE, FILLY, or GELDING, for field, foaled in 1903, *in hand.*—Premiums, £8, £5, and £3.

1st	No. 392	J. A. Robson Scott, Newton, Jedburgh, Filly.
2nd	No. 390	Charles Jackson, Manor House, Dalston, Carlisle, Gelding, "Larry."
3rd	No. 391	Mrs Percy Morris, Broadholm, Lockerbie, Filly "Hollyhock."
H	No. 388	William Lee Carlyle, Templehill, Ecclefechan, Gelding, "Dandie."
C	No. 394	Andrew Wilson, Esbie, Lochmaben, Filly, "Lady Dancer" (3001).

CLASS 48. MADE HUNTERS, any age, able to carry up to 13 stone.—Premiums, £15, £10, and £5.

1st	No. 401	Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Sportsman."
2nd	No. 400	Fred. Usher, Broom House, Duns, Gelding, "Letham."
3rd	No. 396	Miss E. F. Calder, Halterburn, Yetholm, Kelso, Gelding, "Gibbets."

CLASS 49. MADE HUNTERS, any age, able to carry over 13 stone.—Premiums, £15, £10, and £5.

1st	No. 409	Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, Gelding, "Ireland."
2nd	No. 405	James Roberton, The Tofts, Morebattle, Kelso, Gelding, "Four Cyclinder."
3rd	No. 403	J. A. Holms, Sandyford, Paisley, Gelding, "Skittles."
V	No. 402	Capt. Gerald F. Dunne, Netheral, Carlisle, Gelding, "Kilmestan."

CLASS 50. HUNTER BROOD MARE, with Foal at foot.—Premiums, £15, £8, and £4, given by Captain Clayhills Henderson of Invergowrie, R.N.

1st	No. 414	Thos. & Hy. Ward, Pinchinthorpe, Great Ayton, "Beatrice."
2nd	No. 412	Robert Wallace, Townhead of Drumley, Annbank Station, Ayr, "Fire Escape" (1864)
3rd	No. 410	Captain Clayhills Henderson, R.N., of Invergowrie, Dundee, "Princess Patricia" (1176).
H	No. 411	Captain Clayhills Henderson, R.N., of Invergowrie, Dundee, "Wild Rose."

HACKNEYS.

(ALL TO BE SHOWN IN HAND.)

PRESIDENT'S CHAMPION MEDAL for best Hackney.

No. 433 Arthur Hall, Copmanthorpe Grange, York, "Copmanthorpe Performer."

Best Mare or Filly in Hackney or Pony Classes—Champion Prize of £10, or a Gold Medal of the same value, at the option of the Exhibitor, given by the Hackney Horse Society.

No. 415 A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosina" (15,129).

CLASS 51. BROOD MARE, 15 hands and upwards, with Foal at foot or to foal this season to a registered sire. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st	No. 415	A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosina" (15,129).

CLASS 52. BROOD MARE, under 15 hands, with Foal at foot or to foal this season to a registered sire. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 416 J. Ernest Kerr, Harviestoun, Dollar, "Londesborough Nancy" (15,984).
2nd No. 417 John MacArthur, 5 Cumin Place, Edinburgh, "Brenda" (9767).

CLASS 53. YELD MARE or FILLY, foaled in 1903. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 419 J. Ernest Kerr, Harviestoun Castle, Dollar, "Broxton Geltlette" (16,494).
2nd No. 420 William Wisely, Braeside, Mannofield, "Braeside Bangle."

CLASS 54. FILLY, foaled in 1904. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 423 A. W. Hickling, Adbolton, Nottingham, "Adbolton Rosamond."
2nd No. 424 Mrs Ostlere, Chapel House, Kirkcaldy, "Luette."
3rd No. 421 Carr & Co., Clydevale Hackney Stud, Carluke, N.B., "Beverley Queen."

CLASS 55. FILLY, foaled in 1905, eligible for entry in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 426 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Acclamation of Inverness."

CLASS 56. STALLION, foaled in or before 1903, over 15 hands. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 430 Thomas Hall, Copmanthorpe Grange, York, "St Thomas" (7261).
2nd No. 431 Seaham Harbour Stud, Ltd., The Dene, Seaham Harbour, "Freemason" (8146).
3rd No. 427 Carr & Co., Clydevale Hackney Stud, Carluke, N.B., "Original" (9365).

CLASS 57. STALLION, foaled in or before 1903, over 14 and not over 15 hands. Registered in the Hackney Stud-Book.—Premiums, £10, £6, and £4.

1st No. 432 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Inverness Royalist" (8908).

CLASS 58. ENTIRE COLT, foaled in 1904. Registered in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 433 Arthur Hall, Copmanthorpe Grange, York, "Copmanthorpe Performer."

CLASS 59. ENTIRE COLT, foaled in 1905, eligible for entry in the Hackney Stud-Book.—Premiums, £8, £5, and £3.

1st No. 436 Wm. M'Allister, The Inverness Hackney Stud, Inverness, "Inverness St Thomas."
2nd No. 437 Wm. Wisely, Braeside, Mannofield, Aberdeen, "Braeside Freemaster."
3rd No. 435 Alexander Davidson, Ladyurd, Dolphinton.

PONIES.

PRESIDENT'S CHAMPION MEDAL for best Pony.

No. 440. J. Ernest Kerr, Harviestoun, Dollar, "Sir Archie."

CLASS 60. STALLION, 3 years old and upwards, over 12, not exceeding 14 hands, *in hand.*—Premiums, £5, £3, and £2.

1st	No. 440	J. Ernest Kerr, Harviestoun, Dollar, "Sir Archie."
2nd	No. 441	William S. Miller, The Moorings, Dumbreck, Glasgow, "Bantam King."
3rd	No. 438	Carr & Co., Clydevale Hackney Stud, Carluke, N.B., "Bathgate Swell" (8731).

CLASS 61. STALLION, 3 years old and upwards, 12 hands and under, *in hand.*—Premiums, £5, £3, and £2.

No Entry.

CLASS 62. YELD MARE, FILLY, or GELDING, 3 years old and upwards, over 13 and not over 14 hands, *in saddle.*—Premiums, £5, £3, and £2.

2nd	No. 442	John Ellis, Laverlaw, Peebles, Mare, "Polly."

CLASS 63. YELD MARE, FILLY, or GELDING, 3 years old and upwards, over 12 and not over 13 hands, *in saddle.*—Premiums, £5, £3, and £2.

1st	No. 444	J. E. Kerr, Harviestoun Castle, Dollar, Mare, "Marcelline."
2nd	No. 447	William Wisely, Braeside, Mannofield, Aberdeen, Gelding, "Bantam."
3rd	No. 445	William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."

CLASS 64. YELD MARE, FILLY, or GELDING, 3 years old and upwards, 12 hands and under, *in hand.*—Premiums, £5, £3, and £2.

1st	No. 449	John Cairns, Carberry, Methil, Fifeshire, Mare, "Little Queen" (6042).
2nd	No. 450	Andrew Low, Oswald Road, Kirkcaldy, Gelding, "Little Bobbie."
3rd	No. 452	John Wilkie, Brockhouse, Fountainhall, Gelding, "Multrig."

POLO AND RIDING PONIES.

PRESIDENT'S CHAMPION MEDAL for best Polo or Riding Pony.

No. 453 F. W. Chance, M.P., Morton, Carlisle, "White Mask" (190).

CLASS 65. STALLION, 3 years old and upwards, 13.2 and not exceeding 14.2 hands, entered in the Polo and Riding Pony Stud-Book, or got by a Registered Polo Pony sire or out of a Registered Polo Pony dam.—Premiums, £5, £3, and £2.

1st	No. 453	F. W. Chance, M.P., Morton, Carlisle, "White Mask" (190).

COBS.

PRESIDENT'S CHAMPION MEDAL for best Pony in Class 66.

No. 457 The Earl of Minto, Minto, Hawick, Mare, "Coronation."

CLASS 66. RIDING COB or PONY, not eligible by pedigree or type for any of the other Pony Classes, from 13.2 to 15 hands—*in saddle.*—Premiums, £5, £3, and £2.

1st	No. 457	The Earl of Minto, Minto, Hawick, Mare, "Coronation."
2nd	No. 456	J. C. Ewart, Duddingston House, Mid-Lothian, Mare, "Fatimah."

HIGHLAND PONIES.

PRESIDENT'S CHAMPION MEDAL for best Highland Pony.

No. 461 Lord Arthur Cecil, The Mount, Lymington, Hants, "MacNeil."

CLASS 67. HIGHLAND PONY STALLION, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book.—Premiums, £10, £3, and £2.

1st No. 461 Lord Arthur Cecil, The Mount, Lymington, Hants, "MacNeil."
2nd No. 463 Charles D. M. Ross, Ibert, Crieff, "Johnnie" (254).
3rd No. 464 Donald Stewart, Drumchorry, Pitlochry, "Moss Laddie" (336).

CLASS 68. HIGHLAND PONY ENTIRE COLT, foaled in 1904 or 1905.—Premiums, £10, £3, and £2.

1st No. 465 Lady Arthur Cecil, The Mount, Lymington, Hants, "Righ-na-Fhraioch."
2nd No. 467 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Heather Jock."
3rd No. 468 Donald Stewart, Drumchorry, Pitlochry, "Glen."
H No. 466 J. C. Ewart, Duddingston House, Mid-Lothian, "Sir Ranald."

EXTRA STOCK.

The following was Commended, and a Bronze Medal awarded—

No. 469 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Mull."

CLASS 69. HIGHLAND PONY MARE, 3 years old or upwards, not exceeding 14.2 hands, Yeld or with Foal at foot, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book.—Premiums, £10, £3, and £2.

1st No. 470 R. Hargreaves, Gaick Forest, Kingussie, "Mountain Polly."
2nd No. 473 Donald Stewart, Drumchorry, Pitlochry, "Fionnaghal Niedhonuill" (1523).
3rd No. 471 J. H. Munro Mackenzie of Calgary, Isle of Mull, "Ulva."

EXTRA STOCK.—FOR EXHIBITION.

The following was Commended, and a Bronze Medal awarded—

No. 509 J. C. Ewart, Duddingston House, Mid-Lothian, Celtic Mare and Foal.
No. 510 J. C. Ewart, Duddingston House, Mid-Lothian, Celtic yearling.
No. 511 J. C. Ewart, Duddingston House, Mid-Lothian, Libyan, "The Cid."

SHETLAND PONIES.

(ALL TO BE SHOWN IN HAND.)

PRESIDENT'S CHAMPION MEDAL for best Shetland Pony.

No. 483 R. W. R. Mackenzie, Earlshall, Leuchars, "Bellman."

CLASS 70. STALLION, not exceeding 10½ hands, foaled before 1903.—Premiums, £5, £4, £3, and £2.

1st No. 477 R. W. R. Mackenzie, Earlshall, Leuchars, "Bellman."
2nd No. 480 William Mungall of Transy, Dunfermline, "Seaweed."
3rd No. 474 Robert Chapman, Johnston, Gartcosh, N.B., "Heather Jock."
4th No. 476 Charles Douglas, Auchlochan, Lesmahagow, "Crown Prince."
V No. 478 George A. Miller, Lawmuir, Methven, "Steinar" (283).
H No. 481 Sir Edward A. Stewart-Richardson, Pitfour Castle, Glencarse, Perthshire, "Benedict."
C No. 475 Charles Douglas, Auchlochan, Lesmahagow, "Eric" (294).

CLASS 71. ENTIRE COLT, not exceeding 10½ hands, foaled in 1903 or 1904.—Premiums, £5, £4, £3, and £2.

1st	No. 483	R. W. R. Mackenzie, Earlshall, Leuchars, "Merryman."
2nd	No. 482	Charles Douglas, Auchlochan, Lesmahagow, "Shamrock."
3rd	No. 484	George A. Miller, Lawmuir, Methven, "Boy Blue."

CLASS 72. MARE, not exceeding 10½ hands, with Foal at foot.—Premiums, £5, £4, £3, and £2.

1st	No. 486	R. W. R. Mackenzie, Earlshall, Leuchars, "Hildigunna" (668).
2nd	No. 489	William Mungall of Transy, Dunfermline, "Senga."
3rd	No. 488	George A. Miller, Lawmuir, Methven, "Hermia."
4th	No. 485	Charles Douglas, Auchlochan, Lesmahagow, "Inga" (1492).

CLASS 73. YELD MARE, not exceeding 10½ hands.—Premiums, £5, £4, £3, and £2.

1st	No. 493	William Mungall of Transy, Dunfermline, "Thoralind."
2nd	No. 492	William Mungall of Transy, Dunfermline, "Stella" (1692).
3rd	No. 491	William Mungall of Transy, Dunfermline, "Sea Serpent" (1535).
4th	No. 490	George A. Miller, Lawmuir, Methven, "Barbara."
V	No. 494	David Stewart, Blantyre Park, High Blantyre, "Roma."

CLASS 74. FILLY, not exceeding 10½ hands, foaled in 1903 or 1904.—Premiums, £5, £4, £3, and £2.

1st	No. 501	William Mungall of Transy, Dunfermline, "Emily Dhu."
2nd	No. 496	Charles Douglas, Auchlochan, Lesmahagow, "Pandora."
3rd	No. 500	William Mungall of Transy, Dunfermline, "Lady Steyn."
4th	No. 502	John Sharp, Balmuir, Dundee, "Stella."
V	No. 498	R. W. R. Mackenzie, Earlshall, Leuchars, "Brilliant."
H	No. 499	George A. Miller, Lawmuir, Methven, "Biddy."
C	No. 497	R. W. R. Mackenzie, Earlshall, Leuchars, "Dormouse."

DRIVING COMPETITIONS.

PRESIDENT'S CHAMPION MEDAL for best Animal in the Classes for Horses in Harness.

No. 506 T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Langton Gelding"

CLASS 75. YELD MARE, FILLY, or GELDING, any age, in Harness, 15 hands and upwards, to be driven in the ring.—Premiums, £10, £5, and £3.

1st	No. 506	T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Langton Gelding."
2nd	No. 507	George Wolfe, Millburn, Bathgate, Mare, "Millburn Star."
3rd	No. 505	George Johnston, jun., potato merchant, Airdrie, Mare, "Rose Bay" (16,140).

Special Prize for best Pony in Class 76 under 13 *hands*—£5.

No. 445 William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."

CLASS 76. YELD MARE, FILLY, or GELDING, any age, in Harness, under 15 hands, to be driven in the ring.—Premiums, £10, £5, and £3.

1st	No. 508	T. C. M'Kibbin, The Heaning, Windermere, Gelding, "Flourish."
2nd	No. 445	William S. Miller, The Moorings, Dumbreck, Glasgow, Gelding, "Dumbreck Surprise."
3rd	No. 448	George Wolfe, Millburn, Bathgate, Gelding, "Millburn Bantam."

JUMPING COMPETITIONS

Wednesday, 18th July.

CLASS 1. HORSES or PONIES, any height.—Premiums, £20, £15, £10, £5, and £3.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. James Nodwell, New George Hotel, Dumfries, Gelding, "High Life."
3. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
4. William Mulholland, Swifts Meuse, Carlisle, Gelding, "The Badger."
5. George L. Gillespie, Campfield, Falkirk.

Thursday, 19th July.

CLASS 2. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1.—Premiums, £10, £8, £5, £3, and £2.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. James Nodwell, New George Hotel, Dumfries, Gelding, "High Life."
3. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
4. George L. Gillespie, Campfield, Falkirk, Gelding, "Star."
5. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Greybird."

Friday, 20th July.

CLASS 3. HORSE or PONY, any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2.—Premiums, £10, £8, £5, £3, and £2.

1. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Rufus."
2. Simon Andrews & Sons, Cardonald Grain Mills, Paisley, Gelding, "Ping Pong."
3. F. V. Grange, Oak House, Farndon, Chester, Gelding, "Greybird."
4. J. N. Carnegie, Pitcorthie, Colinsburgh, Gelding, "The Dodger."
5. James Nodwell, New George Hotel, Dumfries, Gelding, "Harry Wheeler."

Champion Prize of £10 *for most points in Prizes with one or more Horses in above Classes*—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; and Fifth Prize, one point—the money to be evenly divided in the event of a tie.

F. V. Grange, Oak House, Farndon, Cheshire.

SHEEP

BLACKFACE.

PRESIDENT'S CHAMPION MEDAL for best Pen of Blackface Sheep.

No. 527 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

Champion Prize, value £10, *for best Blackface Tup in Classes* 77 *and* 78,—give by Mr C. Howatson of Glenbuck.

No. 527 Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

The Sinclair Scott Challenge Trophy, value 100 *guineas, for a Group of Sheep consisting of one Aged Ram, one Shearling Ram, one Ewe and Lamb, the Lamb to be the produce of the Ewe exhibited, and may be either a Tup or Ewe Lamb, and to be judged as part of the Group, and one Gimmer*—All to be bred by and the property of the exhibitor, or bred on the farm now in his possession and the property of the exhibitor, and shown in the ordinary classes; the Trophy to become the property of the exhibitor winning it three times with different sheep; Lambs, Shearling Rams, and Gimmers being eligible to compete again. Given by the late Mr R. Sinclair Scott of Burnside,

A Silver Medal, commemorative of the event, will be presented by the Society to the winner on each occasion.

Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.

CLASS 77. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

1st	No. 514	James Clark, Crossflat, Muirkirk, "Heather Bell."
2nd	No. 515	Matthew G. Hamilton, Woolfords, Cobbinshaw.
3rd	No. 512	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
4th	No. 516	Charles Howatson of Glenbuck.
V	No. 518	Col. R. C. Mackenzie of Edinbarnet, Duntocher.
H	No. 513	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
C	No. 517	D. A. MacArthur, Nunnerie, Abington.

CLASS 78. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

1st	No. 527	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
2nd	No. 523	Robert Buchanan, Blairquhosh, Strathblane.
3rd	No. 525	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
4th	No. 543	Charles Howatson of Glenbuck.
V	No. 540	Matthew G. Hamilton, Woolfords, Cobbinshaw.
H	No. 539	Matthew G. Hamilton, Woolfords, Cobbinshaw.
C	No. 537	James Hamilton, Nether Wellwood, Muirkirk.

CLASS 79. EWE, above one Shear, with her Lamb at foot.—Premiums, £10, £5, and £2.

1st	No. 567	Charles Howatson of Glenbuck.
2nd	No. 563	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
3rd	No. 572	John Robson, Newton, Bellingham.
V	No. 568	Charles Howatson of Glenbuck.
H	No. 565	James Clark, Crossflatt, Muirkirk.
C	No. 562	Cadzow Brothers, Borland and Stonehill, Carstairs Junction.
C	No. 564	James Clark, Crossflatt, Muirkirk.

CLASS 80. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

1st	No. 583	A. & D. M'Dougall, Claggan, Killin.
2nd	No. 584	John Millar. Lambhill, Strathaven.
3rd	No. 574	Cadzow Brothers, Borland and Stonehill, Dunsyre, Carstairs Junction.
V	No. 580	Charles Howatson of Glenbuck.
H	No. 585	Wm. Mitchell, Hazelside, Douglas, N.B.
C	No. 582	A. & D. M'Dougall, Claggan, Killin.
C	No. 586	John Robson, Newton, Bellingham.

CHEVIOT.

PRESIDENT'S CHAMPION MEDAL for best Pen of Cheviot Sheep.

No. 605 John Elliot, Hindhope, Jedburgh.

Challenge Cup, value £25, for best Sheep in the Cheviot Classes,—given by the Cheviot Sheep Society.

No. 605 John Elliot, Hindhope, Jedburgh.

CLASS 81. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

1st	No. 596	Jacob Robson, Byrness, Otterburn, Northumberland, "Lanercost."
2nd	No. 590	John Elliot, Hindhope, Jedburgh.
3rd	No. 601	J. R. C. Smith, Mowhaugh, Yetholm, "John Knox."
4th	No. 595	James Moffat, Craick, Hawick, "Goldfinder."
V	No. 593	Thomas Elliot, Attonburn, Kelso.
H	No. 591	John Elliot, Hindhope, Jedburgh.
C	No. 594	Thomas Elliot, Attonburn, Kelso.

CLASS 82. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

1st	No. 605	John Elliot, Hindhope, Jedburgh.
2nd	No. 612	Jacob Robson, Byrness, Otterburn, Northumberland.
3rd	No. 615	John Robson, Newton, Bellingham.
4th	No. 607	John Elliot, Hindhope, Jedburgh.
V	No. 617	J. R. C. Smith, Mowhaugh, Yetholm.
H	No. 606	John Elliot, Hindhope, Jedburgh.
C	No. 613	Jacob Robson, Byrness, Otterburn, Northumberland.

CLASS 83. EWE, above one Shear, with her Lamb at foot.—Premiums, £10, £5, and £2.

1st	No. 623	Jacob Robson, Byrness, Otterburn, Northumberland.
2nd	No. 619	John Elliot, Hindhope, Jedburgh.
3rd	No. 622	Jacob Robson, Byrness, Otterburn, Northumberland.
V	No. 625	John Robson, Newton, Bellingham.
H	No. 620	James Moffat, Craick, Hawick, "Her Majesty."
C	No. 626	A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 84. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

1st	No. 628	John Elliot, Hindhope, Jedburgh.
2nd	No. 633	John Robson, Newton, Bellingham.
3rd	No. 638	J. R. C. Smith, Mowhaugh, Yetholm.
V	No. 632	John Robson, Newton, Bellingham.
H	No. 636	J. R. C. Smith, Mowhaugh, Yetholm.
C	No. 629	Jacob Robson, Byrness, Otterburn, Northumberland.

BORDER LEICESTER.

PRESIDENT'S CHAMPION MEDAL for best Pen of Border Leicesters.

No. 644 Robert Taylor, Pitlivie, Carnoustie.

Tweeddale Gold Medal for best Border Leicester Tup.

No. 644 Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Brilliant."

Prize of £10 *for best Pen of Border Leicester Sheep, drawn from the Ordinary Classes, registered or eligible for registration in the Border Leicester Flock-Book,*—given by the Society of Border Leicester Sheep-Breeders.

No. 644 Robert Taylor, Pitlivie, Carnoustie.

CLASS 85. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

1st	No. 644	Robert Taylor, Pitlivie, Carnoustie, "Pitlivie Brilliant."
2nd	No. 643	T. M'Intosh, Knowhead, Brechin.
3rd	No. 642	G. & J. Fairbairn, Middle Quarter and Walterstead, Carluke.
4th	No. 641	Andrew Dun, Laidlawstiel, Galashiels, "Prime Favourite" (1311).

CLASS 86. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

1st	No. 661	David Hume, Barrelwell, Brechin.
2nd	No. 666	J. & J. R. C. Smith, Galalaw, Kelso.
3rd	No. 670	Robert Wallace, Auchenbrain, Mauchline.
4th	No. 667	J. & J. R. C. Smith, Galalaw, Kelso.
V	No. 663	David Hume, Barrelwell, Brechin.
H	No. 649	A. Cameron & Sons, Westside Farm, Brechin, N.B.
C	No. 647	The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith.

CLASS 87. EWE, above one Shear.—Premiums, £10, £5, and £2.

1st	No. 681	J. & J. R. C. Smith, Galalaw, Kelso.
2nd	No. 672	The Right Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk.
3rd	No. 676	W. S. Ferguson, Kinochtry, Coupar-Angus.
V	No. 678	David Hume, Barrelwell, Brechin.
H	No. 674	The Duke of Buccleuch, K.G., Dalkeith Park, Dalkeith.
C	No. 675	G. & J. Fairbairn, Middle Quarter and Walterstead, Carluke.

CLASS 88. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

1st	No. 692	David Hume, Barrelwell, Brechin.
2nd	No. 693	J. Ernest Kerr, Harviestoun Castle, Dollar.
3rd	No. 689	James Findlay, Newmiln of Craigeassie, Forfar.
V	No. 697	J. & J. R. C. Smith, Galalaw, Kelso.
H	No. 690	William Ford, Fentonbarns, Drem.
C	No. 696	W. Cairns Moyes, Cairndrum, Brechin.

HALF-BRED.

PRESIDENT'S CHAMPION MEDAL for best Pen of Half-Breds.

No. 714 John Mark, Sunnyside, Prestonkirk.

Champion Prize, value £10, *for the best pen of Half-bred Sheep in Classes* 89-93,—given by the Peebles Co-Operative Society.

No. 714 John Mark, Sunnyside, Prestonkirk.

CLASS 89. TUP, above one Shear.—Premiums, £12, £8, £4, and £2.

1st	No. 702	James A. W. Mein, Hunthill, Jedburgh.
2nd	No. 701	John Bertram, Addinston, Oxton, N.B.

CLASS 90. SHEARLING TUP.—Premiums, £12, £8, £4, and £2.

1st	No. 714	John Mark, Sunnyside, Prestonkirk.
2nd	No. 713	John Mark, Sunnyside, Prestonkirk.
3rd	No. 712	John Mark, Sunnyside, Prestonkirk.
4th	No. 709	Robert Dickinson, Longcroft, Oxton, Berwickshire.
V	No. 707	Robert Dickinson, Longcroft, Oxton, Berwickshire.
H	No. 706	Robert Dickinson, Longcroft, Oxton, Berwickshire.
C	No. 708	Robert Dickinson, Longcroft, Oxton, Berwickshire.

CLASS 91. EWE, above one Shear.—Premiums, £10, £5, and £2.

1st	No. 721	W. C. Ritchie, Lyne, Stobo, Peeblesshire.
2nd	No. 722	W. C. Ritchie, Lyne, Stobo, Peeblesshire.
3rd	No. 723	A. & Jas. K. Smith, Leaston, Upper Keith.
H	No. 724	A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 92. SHEARLING EWE or GIMMER.—Premiums, £10, £5, and £2.

1st	No. 726	James A. W. Mein, Hunthill, Jedburgh.
2nd	No. 727	A. & Jas. K. Smith, Leaston, Upper Keith.
3rd	No. 725	James A. W. Mein, Hunthill, Jedburgh.
H	No. 728	A. & Jas. K. Smith, Leaston, Upper Keith.

CLASS 93. THREE EWE LAMBS.—Premiums, £10, £5, £3, and £2.

1st	No. 734	James A. W. Mein, Hunthill, Jedburgh.
2nd	No. 737	A. & Jas. K. Smith, Leaston, Upper Keith.
3rd	No. 733	Simon Linton, Oakwood, Selkirk.
4th	No. 736	William Pringle, Temple Farm, Gorebridge.
H	No. 730	Andrew Dun, Laidlawstiel Farm, Galashiels.
C	No. 732	Simon Linton, Oakwood, Selkirk.

SHROPSHIRE.

PRESIDENT'S CHAMPION MEDAL for best Pen of Shropshires.

No. 740 Sir Richard Cooper, Bart., Shenstone Court, Lichfield.

CLASS 94. TUP, above one Shear.—Premiums, £6, £4, and £2.

1st	No. 740	Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
2nd	No. 739	Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 95. SHEARLING TUP.—Premiums, £6, £4, and £2.

1st	No. 743	Thomas A. Buttar, Corston, Coupar-Angus.
2nd	No. 744	Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
3rd	No. 741	Thomas A. Buttar, Corston, Coupar-Angus.
H	No. 745	Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
C	No. 742	Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 96. EWE, above one Shear.—Premiums, £5, £3, and £2.

1st	No. 748	Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
2nd	No. 746	Thomas A. Buttar, Corston, Coupar-Angus.
3rd	No. 747	Thomas A. Buttar, Corston, Coupar-Angus.

CLASS 97. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

1st	No. 752	Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
2nd	No. 749	Thomas A. Buttar, Corston, Coupar-Angus.
3rd	No. 750	Thomas A. Buttar, Corston, Coupar-Angus.
H	No. 751	Thomas A. Buttar, Corston, Coupar-Angus.

OXFORD DOWNS.

PRESIDENT'S CHAMPION MEDAL for best Pen of Oxford Downs.

No. 761 James T. Hobbs, Maisey Hampton, Fairford, Gloucester.

CLASS 98. SHEARLING TUP.—Premiums, £6, £4, and £2.

1st	No. 761	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
2nd	No. 762	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
3rd	No. 763	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
V	No. 756	Andrew S. Elliot, Hollybush, Galashiels.
H	No. 764	W. C. Ritchie, Lyne, Stobo, Peeblesshire, "Golden Hoof."
C	No. 765	W. C. Ritchie, Lyne, Stobo, Peeblesshire, "Golden Fleece."

CLASS 99. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

1st	No. 772	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
2nd	No. 771	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
3rd	No. 773	James T. Hobbs, Maisey Hampton, Fairford, Gloucester.
V	No. 768	Andrew S. Elliot, Hollybush, Galashiels.
H	No. 767	The Right Hon. A. J. Balfour, M.P., Whittingehame, Prestonkirk.
C	No. 769	Andrew S. Elliot, Hollybush, Galashiels.

SUFFOLK.

PRESIDENT'S CHAMPION MEDAL for best Pen of Suffolk Sheep.

No. 786 William Ford, Fentonbarns, Drem.

CLASS 100 SHEARLING TUP.—Premiums, £6, £4, and £2.

1st No. 774 Alexander Anderson, Berryhill, Dundee.

Best Suffolk Ewe in Class 101 *bred in Scotland*—£3; *second best ditto*, £2. Given by the Suffolk Sheep Society.

1st No. 779 William Ford, Fentonbarns, Drem.
2nd No. 778 William Ford, Fentonbarns, Drem.

CLASS 101. SHEARLING EWE or GIMMER.—Premiums, £5, £3, and £2.

1st No. 779 William Ford, Fentonbarns, Drem.
2nd No. 777 Alex. Anderson, Berryhill, Dundee.
3rd No. 778 William Ford, Fentonbarns, Drem.
H No. 776 Alex. Anderson, Berryhill, Dundee.

Best Pen of Suffolk Ewe Lambs in Class 102 *bred in Scotland*—£3; *second best ditto*, £2. Given by the Suffolk Sheep Society.

1st No. 786 William Ford, Fentonbarns, Drem.
2nd No. 787 William Kennedy, Luce Mains, Ecclefechan.

CLASS 102. THREE EWE LAMBS, uncoloured and untrimmed, except as to the squaring of the tail.—Premiums, £5, £3, and £2, given by the Suffolk Sheep Society.

1st No. 786 William Ford, Fentonbarns, Drem.
2nd No. 787 William Kennedy, Luce Mains, Ecclefechan.
3rd No. 785 Alex. Anderson, Berryhill, Dundee.

FAT SHEEP.

Best Pens of Lambs in Class 103 *out of Blackface Ewes, and got by Border Leicester Tup.*—Prizes of £5, £3, and £2, given by Mr M. G. Thorburn.

1st No. 797 David Hunter of Macbiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).
2nd No. 795 F. W. Dyson, Chapelhill, Peebles (Border Leicester Ram and Blackfaced Ewes).
3rd No. 798 David Hunter of Macbiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).

Best Pens of Cross-bred Lambs in Class 103 *got by a Pure-bred Shropshire Tup.*—Prizes of £7 and £3, given by the Shropshire Sheep-Breeders' Association.

1st No. 793 Alex. Brown, Incharvie, Kilconquhar, Fifeshire (Shropshire Tup and Half-bred and Cross Ewes).
2nd No. 792 Alex. Brown, Incharvie, Kilconquhar, Fifeshire (Shropshire Tup and Half-bred and Cross Ewes).

Best Pen of Lambs in Class 103 *got by a Suffolk Tup, and out of Cheviot or Blackface Ewes.*—Prize of £5, given by the Suffolk Sheep Society.

No Award.

Best Pen of Lambs in Class 103 *got by a Suffolk Tup, and out of Border Leicester, Half-bred, or Three-parts-bred Ewes.*—Prize of £5, given by the Suffolk Sheep Society.

1st No. 796 William Ford, Fentonbarns, Drem (Suffolk Tup and Half-bred Ewes).

Best Pens of Lambs in Class 103 *got by an Oxford Down Tup.*—Prizes of £5, £3, and £2, given by the Oxford Down Sheep-Breeders' Association, and Messrs Ritchie, Lyne, and Elliot, Hollybush.

1st No. 799 George Pendreigh, Dalhousie, Bonnyrigg (Oxford Down Tup and Border Leicester Ewes).
2nd No. 789 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).
3rd No. 790 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).

CLASS 103. Three FAT LAMBS, any Breed or Cross, dropped in the year of the Show.—Premiums, £5 and £3.

1st No. 799 George Pendreigh, Dalhousie, Bonnyrigg (Oxford Down Tup and Border Leicester Ewes).
2nd No. 797 David Hunter of Machiehill, Lamancha (Border Leicester Tup and Blackfaced Ewes).
V No. 789 Alex. Anderson, Berryhill, Dundee (Oxford Down Tup and Hampshire Down Ewes).
H No. 796 William Ford, Fentonbarns, Drem (Suffolk Tup and Half-bred Ewes).
C No. 795 F. W. Dyson, Chapelhill, Peebles (Border Leicester Ram and Blackfaced Ewes).

EXTRA STOCK.

The following was Commended, and a Bronze Medal awarded—

No. 801 Alex. Brown, Incharvie, Kilconquhar, Fifeshire (Cross Hoggs: Shropshire Tup and Blackfaced Ewes).

The following was Very Highly Commended, and a Medium Silver Medal awarded—

No. 802 J. C. Ewart, Duddingston House, Mid-Lothian (St Kilda female with twin lambs by Blackfaced Ram).

SWINE

PRESIDENT'S CHAMPION MEDAL for best Pen of Swine.

No. 806 David W. Gunn, Craigcrook Farm, Blackhall, Edinburgh, "Walton Beauty" (13,033).

LARGE WHITE BREED.

CLASS 104. BOAR.—Premiums, £6, £4, and £2.

1st No. 803 R. R. Rothwell, Fullwood Hall Farm, Preston, "Sprucefield Premier" (1515).
2nd No. 805 William B. Wallace, Broomhouse, Corstorphine, Mid-Lothian, "Broomhouse Hercules" (9031).
3rd No. 804 Thomas Simpson, Duddingston, Portobello, "Royal Stewart" (7893).

CLASS 105. SOW.—Premiums, £6, £4, and £2.

1st	No. 806	David W. Gunn, Craigcrook Farm, Blackhall, Edinburgh, "Walton Beauty" (13,038).
2nd	No. 807	R. Millington Knowles, Colston Basset Hall, Bingham, Notts., "Colston Lass XIV." (15,564).
3rd	No. 808	R. R. Rothwell, Fullwood Hall Farm, Preston, "Fullwood Empress I." (15,720).
H	No. 810	Thomas Simpson, Duddingston, Portobello, "Colston Lady Snow VII." (15,556).

CLASS 106. Pair of BOARS, not above 8 months old.—Premiums, £5, £3, and £2.

1st	No. 813	William B. Wallace, Broomhouse, Corstorphine, Mid-Lothian.

CLASS 107. Pair of GELTS, not above 8 months old.—Premiums, £5, £3, and £2.

1st	No. 817	R. R. Rothwell, Fullwood Hall Farm, Preston.
2nd	No. 815	David W. Gunn, Craigcrook Farm, Blackhall, Edinburgh.
3rd	No. 818	Thomas Simpson, Duddingston, Portobello.
H	No. 816	R. Millington Knowles, Colston Basset Hall, Bingham, Notts.
H	No. 819	A. E. Todd, Stoneybank, Musselburgh.

BERKSHIRE.

CLASS 108. BOAR.—Premiums, £6, £4, and £2.

1st	No. 821	L. Currie, Minley Manor, Farnborough, Hants, "Polegate Dandy" (10,378).
2nd	No. 823	The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Dictator" (10,388).
3rd	No. 824	J. Jefferson, Peel Hall, Chester, "Lyneham Lad" (9506).
H	No. 822	The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Decimal" (9814).
C	No. 825	J. Jefferson, Peel Hall, Chester, "Peel Augustus" (11,269).

CLASS 109. SOW.—Premiums, £6, £4, and £2.

1st	No. 831	J. Jefferson, Peel Hall, Chester, "Peel Melon" (11,262).
2nd	No. 829	The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Disdainful Lady" (10,389).
3rd	No. 828	The Duchess of Devonshire, Compton Place, Eastbourne, "Polegate Dovecote" (9819).
H	No. 827	L. Currie, Minley Manor, Farnborough, Hants, "Minley Belle."
H	No. 830	J. Jefferson, Peel Hall, Chester.

CLASS 110. Pair of BOARS, not above 8 months old.—Premiums, £5, £3, and £2.

1st	No. 835	J. Jefferson, Peel Hall, Chester.
2nd	No. 833	The Duchess of Devonshire, Compton Place, Eastbourne.
3rd	No. 832	The Duchess of Devonshire, Compton Place, Eastbourne.
H	No. 834	The Duchess of Devonshire, Compton Place, Eastbourne.

CLASS 111. Pair of GELTS, not above 8 months old.—Premiums, £5, £3, and £2.

1st	No. 837	The Duchess of Devonshire, Compton Place, Eastbourne.
2nd	No. 836	L. Currie, Minley Manor, Farnborough, Hants.
3rd	No. 841	J. Jefferson, Peel Hall, Chester.
H	No. 842	J. Jefferson, Peel Hall, Chester.

POULTRY

First Premium—*One Sovereign*. Second Premium—*Ten Shillings*. Where there are Six or more Entries, Third Premium—*Five Shillings*.

CHAMPION MEDALS.

1. *Best Cock, any variety.*

No. 312 Dr J. K. Goodall, Brimington, Chesterfield (Indian Game).

2. *Best Hen, any variety.*

No. 163 F. Whitaker, Brook Royde, Weeton, Leeds (Minorca).

3. *Best Cockerel, any variety.*

No. 295 John Wharton, Honeycott Farm, Hawes, Yorks. (Wyandotte Partridge).

4. *Best Pullet, any variety.*

No. 23 J. A. & M. F. Smyth, The Lodge, Coleraine, Ireland (Dorking).

5. *Best Pen of Ducks.*

No. 402 The Countess of Home, The Hirsel, Coldstream (Aylesbury Drake).

6. *Best Pen of Geese.*

No. 430 W. Woods, auctioneer, Worksop (Toulouse Gander).

7. *Best Pen of Turkeys.*

No. 432 Lord Leith of Fyvie, Fyvie Castle, Fyvie (Bronze Cock)

CLASS 1. DORKING—Coloured. Cock.

1st	No. 4	C. Sneddon, Ribby Road, Kirkham, Lancs.
2nd	No. 5	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
V	No. 1	Chas. Aitkenhead, Stud Farm, Seaham Harbour.
H	No. 2	The Countess of Home, The Hirsel, Coldstream.
C	No. 3	Alex. Shanks, Cuthelton Farm, Denny.

CLASS 2. DORKING—Coloured. Hen.

1st	No. 6	Chas. Aitkenhead, Stud Farm, Seaham Harbour.
2nd	No. 9	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
V	No. 8	C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 3. DORKING—Coloured. Cockerel.

1st	No. 14	Robt. Jackson, Dawdon Hill Farm, Seaham Harbour.
2nd	No. 15	C. Sneddon, Ribby Road, Kirkham, Lancs.
3rd	No. 16	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
V	No. 12	Mrs A. W. Farquhar, St Margaret's, Bridge of Weir.

CLASS 4. DORKING—Coloured. Pullet.

1st	No. 23	J. A. & M. F. Smyth, The Lodge, Coleraine, Ireland.
2nd	No. 24	C. Sneddon, Ribby Road, Kirkham, Lancs.
3rd	No. 20	The Countess of Home, The Hirsel, Coldstream.
V	No. 18	Alex. Cross of Knockdon, Maybole.
H	No. 19	Mrs A. W. Farquhar, St Margaret's, Bridge of Weir.
C	No. 22	Robt. Jackson, Dawdon Hill Farm, Seaham Harbour.
C	No. 25	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.

CLASS 5. DORKING—Silver Grey. Cock.

1st	No. 27	George Duncan, Countesswells, Aberdeenshire.
2nd	No. 26	Chas. Aitkenhead, Stud Farm, Seaham Harbour.
3rd	No. 29	Arthur C. Major, Ditton, Langley, Bucks., Slough.
V	No. 31	C. Sneddon, Ribby Road, Kirkham, Lancs.
H	No. 30	James Shanks, Cuthelton Farm, Denny.
C	No. 28	James Logan, East Linton, Prestonkirk.

CLASS 6. DORKING—Silver Grey. Hen.

1st	No. 34	Arthur C. Major, Ditton, Langley, Bucks., Slough.
2nd	No. 37	C. Sneddon, Ribby Road, Kirkham, Lancs.
V	No. 38	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks.
H	No. 35	John Mechie, jun., miller, Auchtermuchty, Fife.
C	No. 36	James Shanks, Cuthelton Farm, Denny.

CLASS 7. DORKING—Silver Grey. Cockerel.

1st	No. 40	Alex. Cross of Knockdon, Maybole.
2nd	No. 45	Arthur C. Major, Ditton, Langley, Bucks., Slough.
3rd	No. 42	John P. Harle, East Craigie, Cramond Bridge.
V	No. 43	The Countess of Home, The Hirsel, Coldstream.
H	No. 41	Alex. Cross of Knockdon, Maybole.
C	No. 46	C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 8. DORKING—Silver Grey. Pullet.

1st	No. 53	Arthur C. Major, Ditton, Langley, Bucks., Slough.
2nd	No. 48	Alex. Cross of Knockdon, Maybole.
3rd	No. 49	Alex. Cross of Knockdon, Maybole.
V	No. 54	C. Sneddon, Ribby Road, Kirkham, Lancs.

CLASS 9. COCHIN-CHINA. Cock.

1st	No. 56	George Archibald, Blebo Crags, Cupar-Fife.
2nd	No. 57	John Ferguson, 7 North Inglis Street, Dunfermline.
V	No. 59	Wm. Lockhart, Marsh Cottage, Canonbie.
H	No. 58	Mrs Hendrie, Flowerdale, Steps Road, nr. Glasgow.
C	No. 60	T. S. Macfarlane, Underwood Road Dye Works, Paisley.

CLASS 10. COCHIN-CHINA. Hen.

Not forward.

CLASS 11. BRAHMAPOOTRA. Cock.

1st	No. 63	George Archibald, Blebo Crags, Cupar-Fife.

CLASS 12. BRAHMAPOOTRA. Hen.

Not forward.

CLASS 13. BRAHMA or COCHIN. Cockerel.

1st	No. 67	John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
2nd	No. 70	Mrs Inglis, Watchhill, Canonbie (Cochin).
3rd	No. 66	A. K. Crichton, Estates Office, Bridge of Weir (Cochin Partridge).
V	No. 68	John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
H	No. 65	George Archibald, Blebo Crags, Cupar-Fife (Cochin).

CLASS 14. BRAHMA or COCHIN. Pullet.

1st	No. 75	Mrs Inglis, Watchhill, Canonbie (Cochin).
2nd	No. 73	John Ferguson, 7 North Inglis Street, Dunfermline (Cochin).
3rd	No. 76	Mrs Inglis, Watchhill, Canonbie (Cochin).
V	No. 72	A. K. Crichton, Estates Office, Bridge of Weir (Cochin).
H	No. 71	George Archibald, Blebo Crags, Cupar-Fife (Cochin).

CLASS 15. SCOTCH GREY. Cock.

1st	No. 82	Alex. Ollar, Kilkerran Cottage, Campbeltown.
2nd	No. 77	John Carswell, 148 Graham's Road, Falkirk.
3rd	No. 80	David Hastings, Glaister Cottage, Darvel.
V	No. 79	John Cunningham, Mill Bank, Dreghorn.
H	No. 81	David Hunter of Macbiehill, Lamancha.

CLASS 16. SCOTCH GREY. Hen.

1st	No. 84	John Cunningham, Mill Bank, Dreghorn.
2nd	No. 86	Alex. Ollar, Kilkerran Cottage, Campbeltown.
V	No. 83	John Carswell, 148 Graham's Road, Falkirk.

CLASS 17. SCOTCH GREY. Cockerel.

1st	No. 93	Andrew Todd, Woodside, Tullibody.
2nd	No. 88	John Carswell, 148 Graham's Road, Falkirk.
3rd	No. 92	Alex. Ollar, Kilkerran Cottage, Campbeltown.
V	No. 87	John Carswell, 148 Graham's Road, Falkirk.
H	No. 89	John Craig, Fauldside Cottage, Dreghorn, Ayrshire.
C	No. 90	James Grainger, 161 Graham's Road, Falkirk.

CLASS 18. SCOTCH GREY. Pullet.

1st	No. 96	Chas. Douglas, Auchlochan, Lesmahagow.
2nd	No. 94	John Carswell, 148 Graham's Road, Falkirk.
V	No. 98	Alex. Ollar, Kilkerran Cottage, Campbeltown.
H	No 95	John Carswell, 148 Graham's Road, Falkirk.
C	No. 97	James Grainger, 161 Graham's Road, Falkirk.

CLASS 19. HAMBURG—Black. Cock.

1st	No. 101	Henry Pickles, Kayfield House, Earby.
2nd	No. 99	W. Bentley, Timinetts, Honley, Huddersfield.
V	No. 100	John Goodfellow, 20 Short Lane, Cupar-Fife.

CLASS 20. HAMBURG—Black. Hen.

1st	No. 104	Henry Pickles, Kayfield House, Earby.
2nd	No. 102	W. Bentley, Timinetts, Honley, Huddersfield.
V	No 103	The Countess of Home, The Hirsel, Coldstream.

CLASS 21. HAMBURG—Any other Variety. Cock.

1st	No. 107	Henry Pickles, Kayfield House, Earby (Silver-spangled).
2nd	No. 109	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Silver-pencilled).
V	No. 108	Henry Pickles, Kayfield House, Earby (Silver-spangled).
H	No. 105	Maurice Jackson, High Green Farm, Silsden, near Keighley (Silver-pencilled).
C	No. 106	D. K. Livingston, Bridge of Earn (Gold-pencilled).

CLASS 22. HAMBURG—Any other Variety. Hen.

1st	No. 113	Henry Pickles, Kayfield House, Earby (Silver-spangled).
2nd	No. 114	Henry Pickles, Kayfield House, Earby (Silver-pencilled).
3rd	No. 110	A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
V	No. 112	D. K. Livingston, Bridge of Earn (Gold-pencilled).
H	No. 116	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Silver-spangled).
C	No. 115	Wm. Smith, Kirk Wynd, Selkirk (Gold-pencilled).

CLASS 23. HAMBURG—Any Variety. Cockerel.

1st	No. 119	Henry Pickles, Kayfield House, Earby (Gold-spangled).
2nd	No. 117	Maurice Jackson, High Green Farm, Silsden, near Keighley (Silver-pencilled).
V	No. 118	Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
H	No. 120	Henry Pickles, Kayfield House, Earby (Black).

CLASS 24. HAMBURG—Any Variety. Pullet.

1st	No. 125	Henry Pickles, Kayfield House, Earby (Silver-splangled).
2nd	No. 124	Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
3rd	No. 123	Maurice Jackson, High Green Farm, Silsden, near Keighley (Gold-pencilled).
V	No. 122	A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
H	No. 121	A. C. Hilston, Wingfield, Strathaven (Gold-pencilled).
C	No. 126	Henry Pickles, Kayfield House, Earby (Gold-pencilled).

CLASS 25. PLYMOUTH ROCK. Cock.

1st	No. 130	Lord Leith of Fyvie, Fyvie Castle, Fyvie.
2nd	No. 131	Mrs John Whitehead, 14 Tower Street, Selkirk.
V	No. 127	Wm. Abbot, 37 Victoria Street, Hunterfield, Arniston, Gorebridge.
H	No. 129	Frank Anderson, Townhead, Biggar.
C	No. 128	Frank Anderson, Townhead, Biggar.

CLASS 26. PLYMOUTH ROCK. Hen.

1st	No. 132	Frank Anderson, Townhead, Biggar.

CLASS 27. PLYMOUTH ROCK. Cockerel.

1st	No. 134	Lord Leith of Fyvie, Fyvie Castle, Fyvie.
2nd	No. 133	Lord Leith of Fyvie, Fyvie Castle, Fyvie.
V	No. 135	L. H. & J. Nutter, Burton, Carnforth.

CLASS 28. PLYMOUTH ROCK. Pullet.

1st	No. 137	John Gillespie, Wyndhead, Lauder.
2nd	No. 138	Harry Munro, Golf Inn, Bishopton.

CLASS 29. MINORCA. Cock.

1st	No. 145	Robert Mitchell, Fowler Farm, Mauchline.
2nd	No. 148	James Stark, 37 Waterloo Road, Lanark.
3rd	No. 140	Wm. Binnie, Woodlands, Kilsyth.
V	No. 142	The Countess of Home, The Hirsel, Coldstream.
V	No. 150	F. Whitaker, Brook Royde, Weeton, near Leeds.
H	No. 146	John Rickerby, Monkhill Mill, Carlisle.
C	No. 144	J. Ewart M'Jerrow, Lockerbie.

CLASS 30. MINORCA. Hen.

1st	No. 163	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 152	Wm. Binnie, Woodlands, Kilsyth.
3rd	No. 158	Robert Mitchell, Fowler Farm, Mauchline.
V	No. 155	John Graham, Kirkfield Smithy, Lanark.
V	No. 161	James Stark, 37 Waterloo Road, Lanark.
H	No. 156	James Howieson, Firdale, Causewayend, Linlithgow.
H	No. 162	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
C	No. 151	A. Beardsley, Balgray Tower, Springburn, Glasgow.

CLASS 31. MINORCA. Cockerel.

1st	No. 169	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 167	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
3rd	No. 165	Henry Dobson, Ribby Road, Kirkham, Lancs.
V	No. 164	James Clews, 79 High Street, Neilston.
H	No. 168	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.

CLASS 32. MINORCA. Pullet.

1st	No. 175	James Stark, 37 Waterloo Road, Lanark.
2nd	No. 171	Maurice Jackson, High Green Farm, Silsden, near Keighley.
3rd	No. 178	F. Whitaker, Brook Royde, Weeton, Leeds.
V	No. 174	Donald M'Phail, Mount Pleasant, Liberton, Mid-Lothian.
H	No. 177	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
C	No. 172	J. Ewart M'Jerrow, Lockerbie.

CLASS 33. LEGHORN—White. Cock.

1st	No. 181	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 179	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
V	No. 180	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.

CLASS 34. LEGHORN—White. Hen.

1st	No. 186	F. Whitaker, Brook Royde, Weeton, Leeds.
2nd	No. 187	F. Whitaker, Brook Royde, Weeton, Leeds.
3rd	No. 184	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
V	No. 185	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
H	No. 182	John P. Harle, East Craigie, Cramond Bridge.
C	No. 183	James Howieson, Firdale, Causewayend, Linlithgow.

CLASS 35. LEGHORN—Any other Variety. Cock.

1st	No. 191	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Brown).
2nd	No. 192	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Pile).
V	No. 189	James M'Ewan, 59 M'Neil Street, Larkhall (Brown).
H	No. 190	William Morgan, Balcurvie, Windygates, Fife (Brown).
C	No. 188	Chas. Douglas, Auchlochan, Lesmahagow (Brown).

CLASS 36. LEGHORN—Any other Variety. Hen.

1st	No. 193	A. Carnduff, Crossarthurlie Street, Barrhead (Brown).
2nd	No. 194	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (Pile).

CLASS 37. LEGHORN—Any Variety. Cockerel.

1st	No. 198	F. Whitaker, Brook Royde, Weeton, Leeds (White).
2nd	No. 179	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
V	No. 195	Alexander Cowe, 1 Castle Road, Ellon, N.B. (Black).
H	No. 196	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).

CLASS 38. LEGHORN. Any Variety. Pullet.

1st	No. 204	F. Whitaker, Brooke Royde, Weeton, Leeds (White).
2nd	No. 201	Henry Dobson, Ribby Road, Kirkham, Lancs. (White).
3rd	No. 203	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
V	No. 200	Alexander Cowe, 1 Castle Road, Ellon, N.B. (Black).
H	No. 202	Weir Brothers, Brickhouse, New Abbey Road, Dumfries (White).
C	No. 199	Hugh Borthwick, Shielgreen, Peebles (White).

CLASS 39. LANGSHAN. Cock.

1st	No. 206	James Heggie, Central Lodge, Hartlepool, County Durham.
2nd	No. 205	Mrs Hart, Croft Terrace, Selkirk.

CLASS 40. LANGSHAN. Hen.

1st	No. 207	Andrew Stillie, Heatherlie, Selkirk.

CLASS 41. LANGSHAN. Cockerel.

No Award.

CLASS 42. LANGSHAN. Pullet.

No Award.

CLASS 43. ORPINGTON—Black. Cock.

1st	No. 213	Geo. Cooper, Woodlea, Dyce, Aberdeenshire.
2nd	No. 216	Robt. Paterson, Main Street, Busby.
3rd	No. 217	David Reid, Bayview, Portgordon.
V	No. 210	Baillie & Breingan, Beath Bleachfield, Cowdenbeath.
V	No. 211	A. Beardsley, Balgray Tower, Springburn, Glasgow.
H	No. 214	George Dalziel, Strath House Poultry Farm, Avonbridge.
H	No. 218	C. Sneddon, Ribby Road, Kirkham, Lancs.
C	No. 215	John Gillespie, Wyndhead, Lauder.
C	No. 219	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian

CLASS 44. ORPINGTON—Black. Hen.

1st	No. 225	David Reid, Bayview, Portgordon.
2nd	No. 222	A. Beardsley, Balgray Tower, Springburn, Glasgow.
3rd	No. 226	C. Sneddon, Ribby Road, Kirkham, Lancs.
V	No. 221	Baillie & Breingan, Beath Bleachfield, Cowdenbeath.
H	No. 228	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
C	No. 223	George Dalziel, Strath House Poultry Farm, Avonbridge.

CLASS 45. ORPINGTON—Buff. Cock.

1st	No. 231	Wm. Morgan, Balcurvie, Windygates, Fife.
2nd	No. 233	Alex. Reith, Eddlewood, Ayr.
3rd	No. 232	David Reid, Bayview, Portgordon.
V	No. 235	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
H	No. 229	John Bryce, High Street, Freuchie, Fifeshire.
C	No. 230	Capt. J. Cunningham, Leithenhopes, Innerleithen.

CLASS 46. ORPINGTON—Buff. Hen.

1st	No. 236	Geo. Cooper, Woodlea, Dyce, Aberdeenshire.
2nd	No. 238	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian.
V	No. 237	Capt. J. Cunningham, Leithenhopes, Innerleithen.

CLASS 47. ORPINGTON—Any Variety. Cockerel.

1st	No. 241	A. K. Crichton, Estates Office, Bridge of Weir (Buff).
2nd	No. 242	George Dalziel, Strath House Poultry Farm, Avonbridge (Black).
3rd	No. 246	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Buff).
V	No. 248	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Black).
H	No. 239	A. Beardsley, Balgray Tower, Springburn, Glasgow (Buff).
C	No. 245	C. Sneddon, Ribby Road, Kirkham, Lancs. (White).

Class 48. ORPINGTON—Any Variety. Pullet.

1st	No. 267	Mrs John Whitehead, 14 Tower Street, Selkirk (Buff).
2nd	No. 252	Geo. Cooper, Woodlea, Dyce, Aberdeenshire (Buff).
3rd	No. 261	Jas. Murray, 2 Moss Row, Fordell, Crossgates (Black).
V	No. 263	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Buff).
V	No. 266	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Buff).
H	No. 253	Alexander Cowe, 1 Castle Road, Ellon, N.B. (Buff).
H	No. 264	Arch. Taylor, Edinburgh Cottage, Liberton, Mid-Lothian (Black).
C	No. 259	Ralph D. Moore, Denehollow, Bearsden, near Glasgow (Black).

Class 49. WYANDOTTE—Gold. Cock.

1st	No. 270	Wm. Morgan, Balcurvie, Windygates, Fife.
2nd	No. 271	Henry Pickles, Kayfield House, Earby.
V	No. 269	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks.

Class 50. WYANDOTTE—Gold. Hen.

1st	No. 275	Henry Pickles, Kayfield House, Earby.
2nd	No. 274	Wm. Morgan, Balcurvie, Windygates, Fife.
V	No. 273	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks.
H	No. 272	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks.

Class 51. WYANDOTTE—Silver. Cock.

1st	No. 277	Weir Brothers, Brickhouse, New Abbey Road, Dumfries.
2nd	No. 276	Henry Pickles, Kayfield House, Earby.

Class 52. WYANDOTTE—Silver. Hen.

1st	No. 281	Henry Pickles, Kayfield House, Earby.
2nd	No. 280	William Morgan, Balcurvie, Windygates, Fife.
V	No. 282	Henry Pickles, Kayfield House, Earby.
H	No. 279	Fred. Argo, Market Place, Inverurie.
C	No. 278	Fred. Argo, Market Place, Inverurie.

Class 53. WYANDOTTE—Any Variety. Cockerel.

1st	No. 295	John Wharton, Honeycott Farm, Hawes, Yorkshire (Partridge).
2nd	No. 286	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks. (Gold).
3rd	No. 284	George Beveridge, Waterloo Place, Lauder (Golden).
V	No. 289	Lord Leith of Fyvie, Fyvie Castle, Fyvie (White).
V	No. 294	C. Sneddon, Ribby Road, Kirkham, Lancs. (Gold).
H	No. 291	Henry Maidment, Hayton Gate, Low Row, Carlisle (Silver).
H	No. 292	Henry Pickles, Kayfield House, Earby (Gold).
C	No. 285	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks. (Gold).

Class 54. WYANDOTTE—Any Variety. Pullet.

1st	No. 305	J. M. Philipson, Fell House, Haydon Bridge (Silver).
2nd	No. 299	O. Duxbury, Carr's House, Barnoldswick, *viâ* Colne, Yorks. (Gold).
3rd	No. 306	J. M. Philipson, Fell House, Haydon Bridge (Silver).
V	No. 303	Henry Maidment, Hayton Gate, Low Row, Carlisle (Silver).
V	No. 307	Henry Pickles, Kayfield House, Earby (Golden).
H	No. 297	George Beveridge, Waterloo Place, Lauder, N.B. (Golden).
H	No. 298	J. & D. Clarkson, Cormiston, Biggar (Partridge).
H	No. 310	John Wharton, Honeycott Farm, Hawes, Yorks. (Silver).
C	No. 296	Fred. Argo, Market Place, Inverurie (Silver-laced, black and white).

Class 55. GAME—Indian. Cock.

1st	No. 312	Dr J. K. Goodall, Brimington, Chesterfield.
2nd	No. 316	John Pettigrew, Moss View, Dalmellington.
3rd	No. 315	James Murdoch, Mount Oliphant, Ayr.
V	No. 311	George Faulkner, Rowton, Chester.
H	No. 314	M'Murdo Brothers, Herbertshire Street, Denny.
C	No. 313	John T. Macfarlane, Gowanbrae, Bearsden, Glasgow.

CLASS 56. GAME—Indian. Hen.

1st	No. 322	John Pettigrew, Moss View, Dalmellington.
2nd	No. 320	Dr J. K. Goodall, Brimington, Chesterfield.
3rd	No. 321	M'Murdo Bros., Herbertshire Street, Denny.
V	No. 318	George Faulkner, Rowton, Chester.
H	No. 317	Charles Douglas, Auchlochan, Lesmahagow.
C	No. 319	George Faulkner, Rowton, Chester.

CLASS 57. GAME—Indian. Cockerel.

1st	No. 323	George Faulkner, Rowton, Chester.
2nd	No. 324	George Faulkner, Rowton, Chester.

CLASS 58. GAME—Indian. Pullet.

1st	No. 326	George Faulkner, Rowton, Chester.
2nd	No. 325	George Faulkner, Rowton, Chester.

CLASS 59. GAME—Old English. Cock.

1st	No. 329	Ralph D. Moore, Denehollow, Bearsden, near Glasgow.
2nd	No. 328	John Hutt, Denend, Cardenden, Fife.
3rd	No. 330	Philip Pittman, 479 High Street, Kirkcaldy.
V	No. 327	John Hutt, Denend, Cardenden, Fife.
H	No. 331	Joseph Thorburn, Fernlea, Annan.

CLASS 60. GAME—Old English. Hen.

1st	No. 334	Ralph D. Moore, Denehollow, Bearsden, near Glasgow.
2nd	No. 335	Joseph Thorburn, Fernlea, Annan.
V	No. 332	John Hutt, Denend, Cardenden, Fife.
H	No. 333	John Hutt, Denend, Cardenden, Fife.

CLASS 61. GAME—Modern. Cock.

1st	No. 339	Alex. Shepherd, Lily Cottage, Forfar (Black Red).
2nd	No. 336	John Borthwick, Garvald, Dolphinton (Brown Red).
V	No. 338	William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).
H	No. 340	C. Sneddon, Ribby Road, Kirkham, Lancs.
C	No. 337	William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).

CLASS 62. GAME—Modern. Hen.

1st	No. 341	William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Black Red).
2nd	No. 342	C. Sneddon, Ribby Boad, Kirkham, Lancs.

CLASS 63. GAME—Any Variety, not including Indian. Cockerel.

Not forward.

CLASS 64. GAME—Any Variety, not including Indian. Pullet.

1st	No. 344	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).

CLASS 65. BANTAM—Game, any Variety, including Old English. Cock.

1st	No. 350	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
2nd	No. 347	Wm. Henderson, 41 Rumbling Well, Dunfermline (Pile).
3rd	No. 345	Wm. Coutts, jun., Rosemount, Forfar (Duckwing).
V	No. 349	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
H	No. 351	H. Wilkie, Woodside, Markinch, Fife (Pile).

CLASS 66. BANTAM—Game, any Variety, including Old English. Hen.

1st	No. 358	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
2nd	No. 359	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern).
3rd	No. 360	H. Wilkie, Woodside, Markinch, Fife (Pile).
V	No. 357	David Reid, Bayview, Portgordon (Duckwing).
H	No. 353	Wm. Henderson, 41 Rumbling Well, Dunfermline (Pile).
C	No. 355	William Melrose, Rosewell Mains, Rosewell, Mid-Lothian (Duckwing).

CLASS 67. BANTAM—Any other Variety. Cock.

1st	No. 363	Lady Margaret Douglas Home, The Hirsel, Coldstream (Sebright).
2nd	No. 364	James M'Crae, 13 Thomson Street, Kilmarnock (Scotch Grey).
V	No. 365	Henry Pickles, Kayfield House, Earby (Black).
H	No. 361	George Gibb & Son, Maybank, East Calder (Black Rosecomb).
C	No. 362	Miss Rita Gray, Airlie, Bridge of Weir (Pekin).

CLASS 68. BANTAM—Any other Variety. Hen.

1st	No. 369	James M'Crae, 13 Thomson Street, Kilmarnock (Scotch Grey).
2nd	No. 366	A. Carnduff, Crossarthurlie Street, Barrhead (Sebright).
V	No. 368	Lady Margaret Douglas Home, The Hirsel, Coldstream (Sebright).
H	No. 367	Miss Rita Gray, Airlie, Bridge of Weir (Pekin).

CLASS 69. Any other recognised Breed of Poultry. Cock.

1st	No. 372	Alex. Ollar, Kilkerran Cottage, Campbeltown (Spanish).
2nd	No. 371	J. & D. Clarkson, Cormiston, Biggar (Wyandotte Partridge).
3rd	No. 375	Miss M. J. Thorburn, Craigerne, Peebles (Andalusian).
V	No. 370	F. Anderson, Highholm, Dunfermline (French Houdan, Black and White).

CLASS 70. Any other recognised Breed of Poultry. Hen.

1st	No. 380	Alex. Ollar, Kilkerran Cottage, Campbeltown (Spanish).
2nd	No. 376	J. & D. Clarkson, Cormiston, Biggar (Wyandotte Partridge).
3rd	No. 381	Miss Alice Prior, Netherfield Park, Ware, Herts. (Andalusian).
V	No. 378	Mrs D. Mackenzie, Maryfield, Meigle (Spanish).
H	No. 377	John Macfarlane, Kilgraston, Bridge of Weir (Wyandotte Partridge).
C	No. 379	Mrs D. Mackenzie, Maryfield, Meigle (Spanish).

CLASS 71. Any other recognised Breed of Poultry. Cockerel.

1st	No. 386	H. Wilkie, Woodside, Markinch, Fife (Pile).
2nd	No. 385	C. Sneddon, Ribby Road, Kirkham, Lancs. (Modern Bantam).
V	No. 384	Mrs D. Mackenzie, Maryfield, Meigle (Spanish).
H	No. 383	Wm. Coutts, jun., Rosemount, Forfar (Pile).

CLASS 72. Any other recognised Breed of Poultry. Pullet.

1st	No. 387	Wm. Coutts, jun., Rosemount, Forfar (Pile).
2nd	No. 388	C. Sneddon, Ribby Road, Kirkham, Lancs. (Houdan Bantam).
V	No. 389	H. Wilkie, Woodside, Markinch, Fife (Pile).

CLASS 73. TABLE FOWLS—Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points. Pair of Cockerels.

1st	No. 395	The Countess of Home, The Hirsel, Coldstream (Indian Game and Dorking).
2nd	No. 396	Lady Alice Stanley, Cowarth Park, Sunningdale, Berks. (Cross Indian Game and Buff Orpington).
3rd	No. 393	Mrs A. W. Farquhar, St Margaret's, Bridge of Weir (D. Dorking and Buff Orpington).
V	No. 394	Robert S. Gray, Southfield, Duddingston (Cross Game).
H	No. 392	Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).
C	No. 391	Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).

CLASS 74. TABLE FOWLS—Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points. Pair of Pullets.

1st	No. 398	The Countess of Home, The Hirsel, Coldstream (Indian Game and Dorking).
2nd	No. 399	C. Sneddon, Ribby Road, Kirkham, Lancs. (Indian Game Cross).
V	No. 397	Alex. Davidson, Ladyurd, Dolphinton (Indian Game and Buff Orpington).

CLASS 75. DUCKS—Aylesbury. Drake.

1st	No. 402	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 401	The Countess of Home, The Hirsel, Coldstream.
V	No. 400	W. B. Dickinson, Longcroft, Oxton, Berwickshire.
H	No. 403	Miss J. Thorburn, Glenormiston, Innerleithen.

CLASS 76. DUCKS—Aylesbury. Duck.

1st	No. 407	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 408	The Countess of Home, The Hirsel, Coldstream.
V	No. 405	W. B. Dickinson, Longcroft, Oxton, Berwickshire.
H	No. 406	W. B. Dickinson, Longcroft, Oxton, Berwickshire.
C	No. 404	Captain J. Cunningham, Leithenhopes, Innerleithen.

CLASS 77. DUCKS—Aylesbury. Drake (Young).

1st	No. 410	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 411	The Countess of Home, The Hirsel, Coldstream.
V	No. 409	W. B. Dickinson, Longcroft, Oxton, Berwickshire.

CLASS 78. DUCKS—Aylesbury. Duck (Young).

1st	No. 414	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 415	The Countess of Home, The Hirsel, Coldstream.

CLASS 79. DUCKS—Rouen. Drake.

1st	No. 416	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 417	The Countess of Home, The Hirsel, Coldstream.

CLASS 80. DUCKS—Rouen. Duck.

1st	No. 420	The Countess of Home, The Hirsel, Coldstream.
2nd	No. 421	Wm. Linton, Sloethorn Bank, Selkirk.
V	No. 419	The Countess of Home, The Hirsel, Coldstream.
H	No. 418	George Dalziel, Strath House Poultry Farm, Avonbridge.

CLASS 81. DUCKS—Any other Variety. Drake.

1st	No. 423	Henry Maidment, Hayton Gate, Low Row, Carlisle (Indian Runner).
2nd	No. 422	James Logan, East Linton, Prestonkirk (Pekin).

CLASS 82. DUCKS—Any other Variety. Duck.

No Entry.

CLASS 83. DUCKS—Any Breed (Aylesbury excepted). Drake (Young).

1st	No. 424	The Countess of Home, The Hirsel, Coldstream (Rouen).
2nd	No. 425	The Countess of Home, The Hirsel, Coldstream (Rouen).

CLASS 84. DUCKS—Any Breed (Aylesbury excepted). Duck (Young).

1st	No. 426	The Countess of Home, The Hirsel, Coldstream (Rouen).
2nd	No. 427	The Countess of Home, The Hirsel, Coldstream (Rouen).

CLASS 85. GEESE. Gander.

1st	No. 430	W. Woods, auctioneer, Worksop (Toulouse).
2nd	No. 429	A. E. Todd, Stoneybank, Musselburgh (Embden).
V	No. 428	John Page, Waterside House, Callander (Embden).

CLASS 86. GEESE. Goose.

1st	No. 431	W. Woods, auctioneer, Worksop (Toulouse).

CLASS 87. TURKEYS. Cock.

1st	No. 432	Lord Leith of Fyvie, Fyvie Castle, Fyvie (Bronze).
2nd	No. 434	Miss Shanks, Cuthelton Farm, Denny (Bronze).
V	No. 435	Miss J. Thorburn, Glenormiston, Innerleithen (Mammoth Bronze).

CLASS 88. TURKEYS. Hen.

1st	No. 436	F. G. S. Rawson, Thorpe, Halifax (American Bronze).
2nd	No. 437	Miss Shanks, Cuthelton Farm, Denny (Bronze).
V	No. 438	Miss J. Thorburn, Glenormiston, Innerleithen (Bronze).

DAIRY PRODUCE

CLASS 1. POWDERED BUTTER, not less than 7 lb.—Premiums, £4, £2, and £1.

1st	No. 10	William Rennie, Parkhead, Slamannan.
2nd	No. 5	Robert Gilmour, Stonebyres, Eaglesham.
3rd	No. 4	Andrew Fleming, Threepland, Eaglesham.
V	No. 6	Walter Little, Drumloch, Chapelton.
H	No. 9	William Paterson, Felton, Dolphinton.
C	No. 8	R. G. Murray, Spittal, Biggar.

CLASS 2. FRESH BUTTER, Three 1 lb. Rolls.—Premiums, £4, £2, and £1.

1st	No. 22	Robert Gilmour, Stonebyres, Eaglesham.
2nd	No. 30	William Rennie, Parkhead, Slamannan.
3rd	No. 21	Andrew Fleming, Threepland, Eaglesham.
V	No. 28	R. G. Murray, Spittal, Biggar.
H	No. 24	Walter Little, Drumloch, Chapelton.
C	No. 25	James Mark, Hyndshaw Farm, Carluke.

CLASS 3. CHEDDAR CHEESE, 56 lb. and upwards.—Premiums, £6, £4, £2, and £1.

1st	No. 42	William Hunter, Garthland Mains, Stranraer.
2nd	No. 36	Alexander Cross of Knockdon, Maybole.
3rd	No. 34	John H. Barrowman, Corrahill, Kirkcudbright.
4th	No. 40	Hugh Gilchrist, Torrs Dairy, Kirkcudbright.
V	No. 47	A. W. Saunders, Dromore Farm, Kirkcudbright.
H	No. 45	James Milroy, Galdenoch, Stoneykirk.
C	No. 37	J. C. Cuninghame, Home Farm, Dunragit.

CLASS 4. FLAT WHITE CHEESE, made according to any method, from a Dairy where all the Cheese are made flat, 40 lb. and upwards—Premiums, £4, £2, and £1.

1st	No. 53	John Paterson, Torfoot, Strathaven.
2nd	No. 54	W. G. Plunkett, Craigneil, Colmonell.
3rd	No. 56	David Walker, Balhamage, Barrhill, Ayrshire.
V	No. 55	David Purdie, Inglestonford, New Abbey, Dumfries.
H	No. 52	Robert Leiper, Yardbent, Strathaven.

CLASS 5. CHEESE, 14 lb. and under.—Premiums, £3, £2, and £1.

1st	No. 64	Stephen Hunter, Whiteleys, Stranraer.
2nd	No. 61	J. C. Cuninghame, Home Farm, Dunragit.
3rd	No. 66	James Milroy, Galdenoch, Stoneykirk.
V	No. 58	John H. Barrowman, Corrahill, Kirkcudbright.
H	No. 62	J. C. Cuninghame, Boreland, Dunragit.
C	No. 59	Hugh W. B. Crawford of Chapmanton, Castle-Douglas (Stilton).
C	No. 69	A. W. Saunders, Dromore Farm, Kirkcudbright.

JUDGES

Shorthorn.—John Handley, Green Head, Milnthorpe; Jas. M'William, Garbity, Orton Station.

Aberdeen-Angus.—Lewis Beaton, Home Farm, Cullen House, Cullen; George Hendry, County Buildings, Aberdeen.

Galloway.—Wm. A. M'Turk, Barlae, Dalry, Galloway.

Highland.—J. R. Campbell, Shinness, Lairg, Sutherland.

Ayrshire.—Thomas C. Lindsay, Aitkenbrae, Monkton; Matthew Hunter, Adamhill, Craigie, Kilmarnock.

Clydesdale Stallions, Entire Colts, and Geldings.—James Barrie, Home Farm, Balmedie, Aberdeen; William Kerr, Houdston, Girvan; John Cocker, Hill of Petty, Fyvie.

Clydesdale Mares and Fillies.—W. S. Park, Hatton, Bishopton; James Murdoch, Gartcraig, Shettleston; James Allison, Clifton Mains, Ratho.

Hunters.—Colonel John M'Kie, Ernespie, Castle-Douglas.

Hackneys, Ponies, and Harness Classes.—H. P. Webster, Stud Farm, Brompton, R.S.O., Yorks.

Polo and Riding Ponies.—Judge of Hunters.

Highland Ponies.—A. M'Gillivray, Banchor, Newtonmore.

Shetland Ponies.—Francis N. M. Gourlay, Broomfield, Moniaive.

Blackfaced.—Peter M'Intyre, Tighnablair, Comrie; John Craig, Innergeldie, Comrie; James Greenshields, West Town, Lesmahagow.

Cheviot.—Charles Scott, Milsington, Hawick; Thos. O. Thornton, Hyndlee, Hawick.

Border Leicester.—James Jeffrey, Deuchrie, Prestonkirk; James Whyte, Hayston, Glamis.

Half-Bred and Fat Sheep.—James Bertram, Heughhead, Reston; William Davidson, Cornhill-on-Tweed.

Shropshire and Oxford Down.—Arthur S. Gibson, Estate Office, Ruddington, Notts.

Suffolk.—C. T. A. Robertson, Little Horringer Hall, Bury St Edmunds.

Swine.—Colonel T. A. Walker-Jones, The Manor House, Burton, Westmoreland.

Poultry.—Alex. M. Prain, Rawes, Longforgan (classes 25 to 54 inclusive and classes 75 to 88 inclusive); John Meikle, Mount Hamilton, Ayr (classes 1 to 24 inclusive and classes 55 to 74 inclusive).

Dairy Produce.—William M'Fadzean, Wedgewood, Charles St., Kilmarnock.

David Wilson, East Linton, for Machine for cleaning and sizing Potatoes—Large Silver Medal.

II.—VETERINARY DEPARTMENT.

CLASS EXAMINATIONS—1906.

Silver Medals were awarded to the following:—

ROYAL (DICK) VETERINARY COLLEGE.

Junior Anatomy	William Davies, Llandyssel, South Wales.
Senior Anatomy	John Robson, Bellingham, Northumberland.
Chemistry	B. A. Searby, Louth, Lincs.
Biology	William Davies, Llandyssel, South Wales.
Physiology	John Robson, Bellingham, Northumberland.
Stable Management	John W. Morrow, Coleraine, Ireland.
Pathology	W. King Clark, North Berwick.
Materia Medica	Thomas Wilson, Nantwich, Cheshire.
Hygiene	H. S. A. Dunn, Aberdeen.
Veterinary Medicine	Hugh Andrew, Edinburgh.
Veterinary Surgery	Hugh Andrew, Edinburgh.

GLASGOW VETERINARY COLLEGE.

Junior Anatomy	Fred. W. Hart, Dromara, Co. Down.
Senior Anatomy	William Kennedy, Arran.
Chemistry and Physics	Fred. W. Hart, Dromara, Co. Down.
Zoology	David Cooper, Bishopbriggs, Glasgow.
Physiology and Histology	Charles Johnstone, Dumfries.
Stable Management	William Kennedy, Arran.
Pathology and Bacteriology	Evelyn Meikle, Sunderland.
Materia Medica	Evelyn Meikle, Sunderland.
Veterinary Hygiene and Dietetics	William Henderson, Shettleston, Glasgow.
Veterinary Medicine and Surgery (horse)	Archibald M'Cunn, Wellbeck, Notts.
Veterinary Surgery	Archibald M'Cunn, Wellbeck, Notts.

22 Large Silver Medals, £14, 0s. 6d.

III.—DISTRICT COMPETITIONS.

			£	s.	d.
18	Districts—	Grants of £12 each (Section I.), less £4 not awarded	£212	0	0
16	"	Grants of £15 each (Section II.)	240	0	0
8	"	Special Grants	96	0	0
35	"	Medals for Shows (91) (2 Medium)	63	8	3
12	"	Medals for Cottages and Gardens (20)	4	16	8
219	"	Medals for Ploughing, 1905-6	52	18	6
308			£669	3	5

ABSTRACT OF PREMIUMS.

	£	s.	d.
Peebles Show	£2608	10	0
District Competitions	669	3	5
Veterinary Colleges	14	0	6
	£3291	13	11

STATE OF THE FUNDS

OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

As at 30th NOVEMBER 1906.

I. CONSOLS—		
£4,000 2½ per cent Consols at 86⅞		£3,475 0 0
II. HERITABLE BONDS—		
£11,000 at 3½ per cent, £23,500 at 3¼ per cent . .		34,500 0 0
III. DEBENTURE AND PREFERENCE STOCKS—		
£5,850 N.B. Railway Co. 3 per cent, at 89¼ .	£5,221 2 6	
£5,200 Gt. Central Railway Co. 4½ per cent, at 129	6,708 0 0	
£3,336 Gt. N. Railway Co. 3 per cent, at 91 .	3,035 15 2	
£3,336 N.E. Railway Co. 3 per cent, at 92 .	3,069 2 4	
£3,200 Gt. E. Railway Co. 4 per cent, at 118.	3,776 0 0	
£2,727 Caled. Railway Co. 4 per cent, at 118½	3,231 9 10	
£2,347 London and North-Western Railway Company 3 per cent, at 95 . .	2,229 13 0	
£1,600 Glasgow and South-Western Railway Co. 4 per cent, at 119 . . .	1,904 0 0	
£1,212 Mid. Railway Co. 2½ per cent, at 77 .	933 4 9	
£2,400 Do. do. Perpetual Preference Stock 2½ per cent, at 73 . . .	1,752 0 0	
£200 Lanarkshire and Dumbartonshire Railway Company 4 per cent, at 115½ .	231 0 0	
		32,091 7 7
IV. BANK STOCKS—		
£4,462 7 8 Royal Bank of Scotland, at 257	£11,468 6 6	
£2,218 16 5 Bank of England, at 280½ .	6,223 15 10	
£1,900 0 0 British Linen Co. Bank, at 501½	9,528 10 0	
£1,009 13 4 Bank of Scotland, at 382½ .	3,861 19 6	
£9,590 17 5		31,082 11 10
V. ON DEPOSIT RECEIPT with Edinburgh Corporation at ½ per cent above Deposit Receipt rates—		
Dated 11th January 1906 . . .	£1,000 0 0	
Dated 19th April 1906 . . .	800 0 0	
		1,800 0 0
TOTAL AMOUNT OF INVESTED FUNDS		£102,948 19 5
VI. ESTIMATED VALUE of Buildings, No. 3 George IV. Bridge	£3,100 0 0	
VII. ESTIMATED VALUE of Furniture, Paintings, Books, &c.	1,000 0 0	
		4,100 0 0
VIII. ARREARS OF SUBSCRIPTIONS considered recoverable . .		123 2 6
IX. BALANCE DUE BY ROYAL BANK OF SCOTLAND ON ACCOUNTS CURRENT at 30th November 1906		1,657 16 8
AMOUNT OF GENERAL FUNDS .		£108,829 18 7

X. TWEEDDALE MEDAL FUND—

Heritable Bond, at 3½ per cent	£500 0 0

XI. THE ROBERT MURDOCH PRIZE FUND—

Legacy by the late Miss Murdoch, Blantyre, to be applied in giving a prize of £10 a-year, while it lasts, to the Breeder of the best Clydesdale Brood Mare at the Annual Show of the Society, £100, less duty.

Amount per last account, including interest	£28 16 9
Interest on Deposit Receipt, dated 2nd November 1905, and uplifted 24th October 1906	0 12 11
	£29 9 8
Transferred to Peebles Show Account	10 0 0
On Deposit Receipt with Royal Bank, dated 24th October 1906	£19 9 8

JAS. H. GIBSON-CRAIG, *Treasurer.*
ALEXR. M. GORDON, *Member of Finance Committee.*
WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, 9*th January* 1907.

VIEW OF RECEIPTS AND PAYMENTS

For the Year 1905-1906.

RECEIPTS.

1.	ANNUAL SUBSCRIPTIONS AND ARREARS received		£1,096 6 6
2.	LIFE SUBSCRIPTIONS		950 8 0
			£2,046 14 6
3.	INTERESTS AND DIVIDENDS—		
	Interests	£2,051 5 2	
	Dividends	1,439 6 11	
			3,490 12 1
4.	TRANSACTIONS		52 12 7
5.	RECEIPTS from Peebles Show		6,554 6 11
6.	INVESTMENTS realised	£13,137 12 11	
7.	INCOME-TAX repaid for two years to 5th April 1906		350 18 10
	SUM OF RECEIPTS		£12,495 4 11

PAYMENTS.

1.	ESTABLISHMENT EXPENSES—			
	Salaries and Wages		£1,472 0 0	
	Feu-duty, Taxes, Coal, Gas, Insurance, Repairs, and Furnishings		232 14 0	
			£1,704 14 0	
2.	FEE TO AUDITOR of Accounts for year 1904-1905		75 0 0	
3.	EDUCATION		198 17 0	
4.	CHEMICAL DEPARTMENT		218 18 4	
5.	VETERINARY DEPARTMENT		14 0 6	
6.	BOTANICAL AND ENTOMOLOGICAL DEPARTMENT		47 19 0	
7.	DAIRY DEPARTMENT		404 14 4	
8.	SOCIETY'S TRANSACTIONS		776 17 1	
9.	ORDINARY Printing, Advertising, Stationery, Postages, and Bank Charges		252 12 11	
10.	SALARY and Expenses of Consulting Engineer		16 5 4	
11.	GRANTS to Public Societies		25 0 0	
12.	MISCELLANEOUS PAYMENTS		142 17 11	
13.	INVESTMENTS made	£15,008 12 9		
14.	PAYMENTS in connection with Glasgow Show		117 12 9	
15.	PAYMENTS in connection with Peebles Show—			
	Premiums	£2,479 10 0		
	General Expenses	3,529 17 2		
			6,009 7 2	
16.	PREMIUMS for Local Shows and District Competitions		690 2 2	
	SUM OF PAYMENTS			10,694 18 6
	BALANCE OF RECEIPTS			£1,800 6 5

JAS. H. GIBSON-CRAIG, *Treasurer.*
ALEXR. M. GORDON, *Member of Finance Committee.*
WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, *9th January* 1907.

ABSTRACT of the ACCOUNTS of the HIGHLAND and

CHARGE.

1. **Balances** due by Royal Bank of Scotland on Account Current at 30th November 1905			£1,728 10 1
2. **Arrears** of Subscriptions outstanding at 30th Nov. 1905		£117 6 6	
Whereof due by Members who have compounded for life, and whose arrears are thereby extinguished	£6 7 0		
Sums ordered to be written off	47 2 0		
		53 9 0	
			63 17 6
3. **Interests and Dividends**—			
(1) Interests—			
On Heritable Bonds, less Income-tax		£1,091 6 8	
On Debenture and Preference Stocks, do.		923 11 9	
On Deposit Receipts with Edinburgh Corporation, less Income-tax		36 6 9	
		£2,051 5 2	
(2) Dividends—			
On Consols, less Income-tax	£95 0 0		
On Bank Stocks	1,344 6 11		
		1,439 6 11	
			3,490 12 1
4. **Subscriptions**—			
Annual Subscriptions		£1,213 14 0	
Life Subscriptions		950 8 0	
			2,164 2 0
5. **Transactions**—Sales and Advertisements			52 12 7
6. **Receipts** from Peebles Show			6,554 6 11
7. **Investments Realised**			13,137 12 11
8. **Income-tax** repaid for two years to 5th April 1906			350 18 10
Sum of Charge			£27,542 12 11

AGRICULTURAL SOCIETY of SCOTLAND for the Year 1905-1906.

DISCHARGE.

1. Establishment Expenses—			
Salaries and Wages—Secretary, £900; Clerk, £300; Second Clerk, £200 Messenger, £72			£1,472 0 0
Feu-duty, £28; Taxes, £47, 6s. 7d.			75 6 7
Coals and Gas			26 0 0
Repairs and Furnishings—Special, £75, 17s. 5d.; Ordinary, £38, 10s			114 7 5
Insurances			17 0 0
			£1,704 14 0
2. Fee to Auditor of Accounts for 1904-1905			75 0 0
3. Education—			
(1) Forestry—			
Vote to Lecturer in Edinburgh University		£50 0 0	
Fees and Expenses of Examiners		23 11 0	
		£73 11 0	
(2) Agriculture—			
Expenses of National Diploma Examination at Leeds		125 6 0	
			198 17 0
4. Chemical Department—			
(1) Salary to Chemist		£50 0 0	
(2) Chemist's Fees for Analyses to Members, and Expenses		95 13 3	
		£145 13 3	
(3) Expenses of Manuring and Sheep-Grazing Experiments, £148, 5s. 1d.—*Less* Grant from Board of Agriculture, £75		73 5 1	
			218 18 4
5. Veterinary Department—Medals to Students			14 0 6
6 Botanical Department—			
Fee to Botanist for year		£25 0 0	
Testing Samples of Seeds for Members		22 19 0	
			47 19 0
7. Dairy Department—			
(1) Expenses of Examination at Kilmarnock, £76, 18s 9d., *less* Fees paid by unsuccessful Students, £7		£69 18 9	
(2) Special Grant—Vote to Dairy School at Kilmarnock		100 0 0	
(3) Milk Record Scheme—			
Experts and Outlays	£297 8 4		
Less Share received from Districts for 1905	62 12 9		
		234 15 7	
			404 14 4
8. Society's Transactions			776 17 1
9. Ordinary Printing, £94, 8s 7d.; Advertising, £16, 16s. 11d.; Stationery, Books, &c., £56, 10s. 7d.; Postages, &c., £75; Bank Charges, &c., £9, 16s. 10d.			252 12 11
10 Consulting Engineer			16 5 4
11. Grants to Public Societies—Scottish Meteorological Society, £20; Society for Prevention of Cruelty to Animals, £5			25 0 0
12. Miscellaneous Payments			142 17 11
13. Investments made			15,008 12 9
14. Payments in connection with Glasgow Show, 1905			117 12 9
15. Payments in connection with Peebles Show, 1906 — Premiums, £2466, 18s. 10d.; Medals, £12, 11s 2d.; Expenses, as per page 379 of Show Account, £3529, 17s. 2d.			6,009 7 2
16. Premiums for Local Shows and District Competitions			690 2 2
17. Arrears struck off as irrecoverable			58 2 6
18. Arrears outstanding at 30th November 1906			123 2 6
19. Balances due by Royal Bank of Scotland on Accounts Current at 30th November 1906—			
Edinburgh Account		£1,528 16 8	
London Account		129 0 0	
			1,657 16 8
Sum of Discharge			£27,542 12 11

JAS. H. GIBSON-CRAIG, *Treasurer.*
ALEXR. M. GORDON, *Member of Finance Committee.*
WM. HOME COOK, C.A., *Auditor.*

Edinburgh, *9th January* 1907.

ABSTRACT of the ACCOUNTS

CHARGE.

	£	s.	d.	£	s.	d.
1. LOCAL SUBSCRIPTIONS—						
Roxburghshire Voluntary Assessment				£320	7	11
Berwickshire " "				175	0	0
Peeblesshire " "				138	19	4
Selkirkshire " "				89	11	0
Royal Burgh of Peebles				105	0	0
Merchants of Peebles				105	0	0
West Linton Agricultural Society				105	0	0
Other Local Contributions				450	12	0
				£1,489	10	3
2. AMOUNT COLLECTED DURING SHOW—						
Drawn at Gates	£2,068	13	9			
Drawn at Grand Stand	313	0	3			
Catalogues and Awards sold	205	4	7			
Cloak-Rooms, Lavatories, &c.	8	18	2			
				2,595	16	9
3. FORAGE SOLD				10	4	8
4. RENT OF STALLS				1,873	5	6
5. RENT OF REFRESHMENT BOOTHS				250	0	0
6. ADVERTISEMENTS IN CATALOGUE AND PREMIUM LIST				96	10	6
7. SUBSCRIPTIONS IN AID OF PREMIUMS				212	0	0
8. INCOME FROM TWEEDDALE MEDAL FUND				15	8	10
9. INTEREST FROM ROYAL BANK AND EDINBURGH CORPORATION				11	10	5
				£6,554	6	11

	£	s.	d.
Note.—From the above balance of,	£544	19	9
There falls to be deducted—			
Premiums undrawn at 30th November 1906, amounting to	129	0	0
Making a probable Surplus of	£415	19	9

of the PEEBLES SHOW, 1906.

DISCHARGE.

1. Showyard Expenditure—		
Fitting up Showyard		£1,990 7 0
Rosettes, £31, 10s. 2d.; Plans and Specifications, £6, 6s. .		37 16 2
Miscellaneous		6 16 7
		£2,034 19 9
2. Forage		251 14 9
3. Police		34 0 0
4. Travelling Expenses of Judges, Stewards, &c. . . .		96 17 9
5. Hotel and Luncheons—		
Hotel Bill for 32 Directors, 7 Stewards, 33 Judges	£224 8 7	
Luncheons and Breakfasts in Showyard for Directors, Judges, and Committee . .	118 19 0	
		343 7 7
6. Music		90 0 0
7. Printing		225 13 11
8. Advertising and Bill-posting		141 14 10
9. Highland Industries		7 10 0
10. Veterinary Inspection		10 10 0
11. Concert for Attendants		3 3 0
12. Treasurer		25 0 0
13. Engineer		5 0 0
14. Forestry Exhibition (Prizes awarded)		18 0 0
15. Assistants and Attendants		179 13 4
16. Postages		50 0 0
17. Miscellaneous		12 12 3
		£3,529 17 2
18. Premiums drawn at 30th November 1906		2,479 10 0
		£6,009 7 2
Balance of Receipts . .		544 19 9
		£6,554 6 11

JAS. H. GIBSON-CRAIG, *Treasurer.*
ALEXR. M. GORDON, *Member of Finance Committee.*
WM. HOME COOK, C.A., *Auditor.*

Edinburgh, *9th January* 1907.

ABSTRACT of the ACCOUNTS of the

CHARGE.

I. Funds at 30th November 1905—						
£3,193, 6s. 8d. 3 per cent Debenture Stock of the North British Railway Company, purchased at				£2,650	0	0
Amount on Heritable Bond, at 3¼ per cent				3,500	0	0
£550 Lancashire and Yorkshire Railway Company 3 per cent Debenture Stock, purchased at				611	10	6
£190 London and North-Western Railway Company 4 per cent Debenture Stock, purchased at				259	1	11
				£7,020	12	5
Balance in Royal Bank on Account Current				316	6	10
				£7,336	19	3
II. Interest—						
On £3,193, 6s. 8d. North British Railway Company 3 per cent Debenture Stock, £95, 16s., less tax £4, 15s. 10d.	£91	0	2			
On £3,500 on Heritable Bond at 3¼ per cent, £113, 15s., less tax £5, 13s. 8d.	108	1	4			
On £550 Lancashire and Yorkshire Railway Company 3 per cent Debenture Stock, £16, 10s., less tax 16s. 6d.	15	13	6			
On £190 London and North-Western Railway Company 4 per cent Guaranteed Stock, £7, 12s., less tax 7s. 8d.	7	4	4			
				221	19	4
III. Miscellaneous Receipt—						
Received repayment of Income-tax for three years to 5th April 1906				35	3	5
Sum of Charge				£7,594	2	0

ARGYLL NAVAL FUND for Year 1905-1906.

DISCHARGE.

I. ALLOWANCES to the five following Recipients—						
Gordon Campbell (fourth year)				£40	0	0
Donald Patrick C. Campbell (third year)				40	0	0
John S. Binny Scott (third year)				40	0	0
John A. Dalrymple Campbell (second year)				40	0	0
Francis Grant Hunter (first year)				40	0	0
				£200	0	0
II. PRINTING—						
Wm. Blackwood & Sons				3	16	0
III. FUNDS at 30th November 1906—						
£3,193, 6s. 8d. 3 per cent Debenture Stock of the North British Railway Company, purchased at	£2,650	0	0			
Amount on Heritable Bond, at 3½ per cent	3,500	0	0			
£550 Lancashire and Yorkshire Railway Company 3 per cent Debenture Stock, purchased at	611	10	6			
£190 London and North-Western Railway Company 4 per cent Debenture Stock, purchased at	259	1	11			
	£7,020	12	5			
Balance in Royal Bank on Account Current	369	13	7			
				7,390	6	0
SUM OF DISCHARGE				£7,594	2	0

JAS. H. GIBSON-CRAIG, *Treasurer.*
ALEXR. M. GORDON, *Member of Finance Committee.*
WM. HOME COOK, C.A., *Auditor.*

EDINBURGH, *9th January* 1907.

PROCEEDINGS AT BOARD MEETINGS.

MEETING OF DIRECTORS, 7TH FEBRUARY 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr Alex. M. Gordon; Sir Robert D. Moncreiffe, Bart.; Sir Arch. Buchan Hepburn, Bart.; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr John Macpherson-Grant; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Colonel Charles Hope; Mr M. G. Thorburn; Mr Adam S. Logan; Mr George W. Constable; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr John Wilson; Mr John Cran. *Treasurer*—Sir James H. Gibson-Craig, Bart. *Chemist*—Mr James Hendrick, B.Sc. David Wilson in the chair.

Peebles Show, 1906.

Railway Arrangements.—The Secretary reported as to the arrangements being made by the Caledonian and North British Railway Companies for coping with the traffic in connection with the Peebles Show. He stated that the North British Railway Company still adhered to their resolution not to give reduced fares for visitors to the Show.

It was resolved that a Deputation wait upon the Directors of the North British Railway Company, with the view of inducing them to give reduced fares as for former Shows, the Deputation to consist of Colonel Hope, Mr Scott Plummer, Mr M. G. Thorburn, Mr Constable, Very Rev. Dr Gillespie, Mr M'Hutchen Dobbie, Mr W. Thorburn, and Bailie Dawling, Peebles, and other gentlemen representing the Peebles District, to be nominated by Mr M. G. Thorburn.

Refreshments for Standholders.—The Board approved of the introduction of regulations for the admission of refreshments for standholders during the Show.

Judges of Sheep.

A letter was read from the National Sheep-Breeders' Association urging that the Judges appointed for all the pure-bred classes of Sheep should be selected from gentlemen nominated by the respective Sheep Societies.

On the motion of Mr FERGUSON, seconded by Mr ELLIOT, it was resolved that the Directors adhere to the present practice of retaining in their own hands the sole power of electing the Judges for the Society's Show, but that as heretofore due consideration will be given to nominations received from Breed Societies and Exhibitors.

Royal Commission on Motor-Cars.

The SECRETARY intimated that the Royal Commission on Motor-Cars had resolved to give a hearing to the Society's witness in accordance with the request in the Resolution adopted at last Meeting of the Board.

Butter Manipulation.

On the recommendation of the Science Committee it was resolved that the attention of the Board of Agriculture be directed to the great injustice being done to consumers and producers of dairy produce in this country by the extensive manipulation and fraudulent sale of butter.

Poisonous Bean-Meal.

The Science Committee drew attention to reports regarding fatalities amongst dairy cows believed to be due to poisonous ingredients in bean-meal imported from foreign countries. Instructions were given to the Society's Chemist to investigate the matter and report to the Board.

Cheap Manures.

Mr **Shirra Gibb** called attention to efforts being made in different parts of Scotland this year to sell cheap and inferior manures. Several varieties of manures of this kind were being pressed on the public at a price of about £3, 10s. per ton. He believed, if analysed, these manures would not be worth more than 30s. per ton, and he thought it well that farmers should be warned to be cautious in the purchase of materials of this kind.

Mr Shirra Gibb was thanked for bringing the matter before the Board.

MEETING OF DIRECTORS, 7TH MARCH 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr William Clark; Mr Andrew Hutcheson; Mr E. D. Paton; Sir Arch. Buchan Hepburn, Bart.; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr W. S. Ferguson; Mr Thomas Gordon Duff; Mr St Clair Cunningham; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Mr H. B. Marshall; Mr M. G. Thorburn; Mr George W. Constable; Mr John Oliver; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr James I. Davidson; Mr John Cran; Mr W. T. Malcolm. *Hon. Secretary*—Sir John Gilmour, Bart. *Chemist*—Mr James Hendrick, B.Sc. Mr Alex. Cross in the chair.

Peebles Show, 1906.

Veterinary Surgeon.—Mr J. C. Johnston, M.R.C.V.S., Peebles, was appointed Veterinary Surgeon for the Show, at the usual fee of ten guineas.

Railway Facilities.—The **Secretary** stated that the Directors of the North British Railway Company had agreed to receive this Society's Deputation on the following day, with regard to reduced fares for the Peebles Show.

A letter was read from the Caledonian Railway Company stating that that Company would issue the usual single fare return tickets during the week of the Show, valid for the return journey up to the following Monday; also that on the last two days of the Show one-day excursion tickets would be issued from the principal places on the Caledonian line in the direction of Peebles.

Sheep Judging.—The **Secretary** reported that there was considerable dissatisfaction expressed by exhibitors of sheep with the inconvenience they experienced at Glasgow of seeing the judging, owing to the limited judging space, and he had brought the matter before the Stewards. The Stewards could not recommend the institution of judging rings for sheep, in the view of the difficulty experienced in getting space for their shows, but they recommended that everything that was practicable should be done to meet the wishes of exhibitors of sheep by having the spaces between the sheds made as large as practicable.

After some discussion the recommendation of the Stewards was adopted.

Royal Scottish Arboricultural Society.

With regard to the recommendation of the Stewards that members of the Royal Scottish Arboricultural Society attending the Show in connection with the Exhibition of Forestry be granted season tickets at 5s. each, being half the usual price, the opinion was expressed by several members of the Board that the granting of reduced rates of admission to the Showyard would form a dangerous precedent.

Sir **Archibald Buchan Hepburn** moved the approval of the recommendation of the Stewards. Mr **Gordon Duff** seconded.

Sir **John Gilmour** moved as an amendment that the recommendation of the Stewards be not approved. Mr **Scott Plummer** seconded.

On a show of hands being taken, the amendment was carried by 11 to 6.

Life Subscriptions.

It was unanimously resolved that it be remitted to the Special Finance Committee to consider and report (1) as to increasing the amounts of the subscriptions for the Life Membership of the Society, so as to make up for the reduction in the rate of interest upon invested money, and (2) as to what changes, if any, should be introduced in the classification of members.

Consulting Engineer.

The Implement Trials Committee recommended that Professor Stanfield of the Heriot-Watt College, Edinburgh, be appointed Consulting Engineer, to the Society, upon conditions similar to those relating to the appointment of the Society's Chemist, the retaining fee to be £25 per annum, and the tenure of office to begin on the 1st of July next.

The recommendation was adopted.

Bute Agricultural Society.

The SECRETARY stated that he had just learned that the Bute Agricultural Society was to hold its Centenary Show in the month of May next, and that there was a great desire amongst the members of the Society to have a grant from the Highland and Agricultural Society in aid of the Premium List on that occasion.

It was unanimously resolved to give a grant of £10 in money and four silver medals, to be offered for pure-bred breeding animals in the classes for Cattle, Horses, and Sheep.

MEETING OF DIRECTORS, 4TH APRIL 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr E. D. Paton; Mr Charles Howatson; Mr John Murray; Sir Archd. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchen Dobbie; Mr William Taylor; Mr David Wilson, D.Sc.; Mr John Macpherson-Grant; Mr John M'Caig; Mr C. M. Cameron. *Extraordinary Directors*—Mr H. B. Marshall Mr James A. W. Mein; Mr Athole S. Hay; Mr M. G. Thorburn; Mr A. S. Logan Mr George W. Constable; Mr John Oliver; Mr And. T. Elliot; Mr Robert Paterson Mr John Ballingall; Mr Andrew Ralston; Mr John Cran. *Hon. Secretary*—Sir John Gilmour, Bart. *Chemist*—Mr James Hendrick, B.Sc. Mr David Wilson in the chair.

Peebles Show, 1906.

Railway Arrangements.—A letter was submitted from the General Manager of the North British Railway stating that the Directors of that Company had agreed to issue the usual single fare return tickets during the whole week of the Show, and in addition to give cheap day excursion fares on the last two days of the Show.

Early Closing on Last Day.—With the object of facilitating railway arrangements, it was agreed that the Show be closed to the public on the last day at 4 P.M. instead of 5 P.M.

Sleeping Tents in Showyard.—It was resolved that the Secretary be empowered to give permission to Exhibitors to erect small sleeping tents in the Showyard for themselves and their attendants, but that no sleeping tents be erected for visitors.

Trade in Butter Substitutes.

A letter was read from the Board of Agriculture inquiring whether the Society desired to nominate witnesses to give evidence before the Select Committee of the House of Commons appointed to inquire into the trade in Butter substitutes.

twas unanimously resolved to nominate Mr John Speir, Newton Farm, to give evidence before the Committee.

Fertilisers and Feeding Stuffs Amendment Bill.

The Science Committee reported generally in favour of this Bill, but recommended certain alterations, notably the introduction of a clause bringing ground lime within the scope of the Act.

Approved.

Office of Consulting Engineer.

A letter was read from Professor Stanfield intimating his acceptance of the office of Consulting Engineer to the Society.

Royal Commission on Canals.

The Secretary submitted a letter from the President of the Board of Agriculture inviting the Society to nominate one or two witnesses to give evidence from the Agricultural point of view before the Royal Commission on Canals and Inland Navigation.

Mr James I. Davidson, Saughton Mains, was unanimously appointed to give this evidence, and it was remitted to the Chairman and the Secretary to endeavour to obtain a witness to give evidence in regard to the Canals in the West of Scotland.

MEETING OF DIRECTORS, 2ND MAY 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr William Clark; Mr J. Douglas Fletcher; Sir Robert D. Moncreiffe, Bart.; Mr John Murray; Sir Arch. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchen Dobbie; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr John Macpherson-Grant; Mr H. M. Leadbetter; Mr Alex. Cross; Mr A. H. Anderson. *Extraordinary Directors*—Mr George W. Constable; Mr And. T. Elliot; Mr John Ballingall; Mr F. W. Christie; Mr James I. Davidson; Mr John Cran; Mr William T. Malcolm. *Auditor*—Wm. Home Cook, C.A. Mr David Wilson in the chair.

Deceased Members.

The Directors resolved to record in their Minutes expressions of the deep regret with which they learned of the deaths of the Earl of Mansfield and of Mr St Clair Cunningham, and of their sense of the valuable services rendered by them to the Society.

Peebles Show, 1906.

Attending Members.—The following Directors were appointed as Attending Members: *Shorthorn*—A. H. Anderson and Robert Paterson; *Aberdeen Angus*—A. M. Gordon and James Stenhouse; *Galloway*—William Duthie and C. M. Cameron; *Highland*—Sir A. Buchan Hepburn, Sir Robert Moncreiffe, and M. G. Thorburn; *Ayrshire*—J. Ernest Kerr and Colonel Hope; *Stallions, Entire Colts, and Geldings*—John Murray and John M'Caig; *Draught Mares and Fillies*—Captain Clayhills Henderson, William Clark, and George W. Constable; *Hunters, Polo and Riding Ponies*—Alexander Cross and H. M. Leadbetter; *Hackneys, Ponies, and Harness Horses*—T. Gordon Duff and William Taylor; *Highland Ponies*—H. B. Marshall and A. T. Elliot; *Shetland Ponies*—F. W. Christie and Athole S. Hay; *Blackface Sheep*—John Ballingall, John Oliver, and James A. W. Mein; *Cheviot*—R. Shirra Gibb and Jas. I. Davidson; *Border Leicester*—John Marr; *Half-Bred and Fat Sheep*—Adam S. Logan; *Shropshire and Oxford Down*—John Cran; *Poultry*—John Macpherson-Grant.

It was remitted with powers to the Chairman and the Secretary to appoint any additional Attending Members that may be required.

Local Fund.—A letter was submitted from the County Clerk of Berwick remitting Voluntary Assessment of £150.

The Secretary was instructed to convey the thanks of the Board to the County Council.

Adulteration of Seeds.

In accordance with notice given, Mr J. DOUGLAS FLETCHER moved: "That in future the Society publish full particulars of all cases of adulteration of seeds, manures, and feeding-stuffs reported on by the Society's Chemist." Mr MACPHERSON-GRANT seconded.

Dr GILLESPIE moved that the matter be remitted to the Science Committee for consideration and report. Mr A. H. ANDERSON seconded.

On a show of hands being taken, Dr Gillespie's amendment was carried by 19 to 2.

Mr J. Douglas Fletcher was added to the Science Committee for the consideration of this matter.

Lower Life Subscription.

The Board having adopted the recommendations of the Special Finance Committee as to the alteration of the Lower Life Subscription, it was unanimously resolved as follows: "That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a Life Subscription be Seven Guineas instead of Five Guineas, and that after eight annual payments of 10s. have been made a Life Subscription may be purchased for Five Guineas, and after twelve such payments for Three Guineas."

Braxy in Sheep.

A letter was submitted from Mr Malloch, M.R.C.V.S., Kirkby Stephen, inquiring whether the Society would be willing to give him facilities for conducting experiments on Braxy in sheep with the view of testing a specific of his own in the prevention of that disease.

It was resolved that no action be taken in view of the expected early publication of the Report on the researches lately conducted for the Board of Agriculture by Professor Hamilton of Aberdeen.

International Institute of Agriculture.

The Secretary submitted a circular letter from the Marquis R. Cappelli with regard to a proposal to establish in Rome a Federation of Agricultural Societies and Co-operative Organisations with the object of co-operating in the work of the International Agricultural Institute about to be founded there. It was resolved that no action be taken in the matter.

MEETING OF DIRECTORS, 6TH JUNE 1906.

Present.—Vice-President—Mr R. Shirra Gibb. *Ordinary Directors*—Mr James Stenhouse; Mr Wm. Clark; Mr E. Douglas Paton; Mr Alex. M. Gordon; Mr J. Douglas Fletcher; Mr Charles Howatson; Sir Arch. Buchan Hepburn, Bart.; Very Rev. John Gillespie, LL.D.; Mr John M'Hutchen Dobbie; Mr William Taylor; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Mr H. M. Leadbetter; Mr Alex. Cross; Mr A. H. Anderson; Mr John M'Caig; Mr William Duthie. *Extraordinary Directors*—Mr H. B. Marshall; Mr M. G. Thorburn; Mr Adam S. Logan; Mr George W. Constable; Mr Robert Paterson; Mr John Ballingall; Mr Andrew Ralston; Mr John M. Aitken; Mr James I. Davidson; Mr John Cran; Captain Clayhills Henderson, R.N. *Chemist*—Mr James Kendrick, B.Sc. David Wilson in the chair.

Professor Wallace's Letters.

The CHAIRMAN said the Secretary had handed to him a question in writing, which he had asked him to answer. He wished to know whether it was the wish of the Board that he should answer it as their Chairman. The question was:—

"I beg to ask the Chairman a question, of which I have given him private notice. In letters which appeared lately in the Dumfries papers, Professor Wallace of Edinburgh University makes the following statements regarding the Secretary of this Society: (1) That he organised misrepresentations which misled the Privy Council into giving the Highland Society its last Charter on Education; and (2) That he had been guilty of secretarial shortcomings which were only saved from the public exposure, which they justly deserved, by sheltering behind a number of noblemen and gentlemen not personally implicated, but whose names would have been disagreeably mixed up in it.

"I ask the Chairman of the Board of Directors to state here publicly, for the information of the members of the Society, whether there is any foundation for these statements by Professor Wallace."

It was unanimously agreed that the question be answered.

The CHAIRMAN: My answer is that there is no foundation whatever for these statements.

Peebles Show, 1906.

Local Fund.—Letters were submitted from the County Clerks of Roxburgh, Selkirk, and Peebles remitting Voluntary Assessments respectively of £320, 7s. 11d., £89, 11s., and £138, 19s. 4d., and from the County Clerk of Berwick sending an additional £25.

The Secretary was instructed to convey the thanks of the Board to the County Councils.

Special Train from Berwick.—The Secretary submitted a letter from the North British Railway Co. intimating the running of a special train from Berwick to Peebles on the opening day of the Show, leaving Berwick at 6.50 A.M. and arriving at Peebles at 9.22 A.M.

Satisfaction was expressed that this special train had been arranged.

Lower Life Subscription.

On the motion of Dr GILLESPIE, seconded by Mr CROSS, it was unanimously resolved to adopt the following Resolution which was approved at last Meeting of the Board of Directors: "That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a Life Subscription be Seven Guineas instead of Five Guineas, and that after eight annual payments of 10s. have been made a Life Subscription may be purchased for Five Guineas, and after twelve such payments for Three Guineas."

Sale of Intoxicating Liquors in the Showyard.

A letter was read from the Scottish Temperance and Social Reform Association expressing the hope that the Directors will give serious consideration to the following Resolution adopted at a Meeting of the Executive of that Association on the 11th of May: "That with a view to increasing the moral influence of agricultural exhibitions, and at the same time ensuring the safety and comfort of the public, we respectfully urge the importance of Societies and Corporations concerned using their powers to ohibit gambling and the sale of intoxicating liquors within the limits of the

The letter and Resolution were remitted to the Shows Committee for consideration when dealing with the arrangements for the Show of 1907.

Vacancies in the Board of Directors.

Letters were submitted from the Marquis of Tullibardine and Captain Hope of Bridge Castle agreeing to nomination for election as Ordinary Directors in room of the late Earl of Mansfield and the late Mr St Clair Cunningham respectively.

A letter was also read from Mr A. M. Gordon of Newton agreeing to his nomination as Honorary Secretary of the Society in room of Sir John Gilmour.

Adulteration of Seeds, Manures, &c.

On the recommendation of the Science Committee it was resolved that steps be taken with a view to the publication of cases of the sale of inferior or adulterated Manures or Feeding-stuffs.

It was also agreed that experiments be made with the view of throwing light on the composition and feeding value of different varieties of turnips.

Judging Ayrshire Cattle.

The SECRETARY submitted the following Memorial from Breeders and others interested in Ayrshire Cattle:—

MEMORIAL TO THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND *RE* JUDGING OF AYRSHIRE CATTLE.

"*To the Highland and Agricultural Society of Scotland.*

"Gentlemen,—We, the undersigned, are interested in the Ayrshire Breed of Cattle, and view with apprehension the basis upon which the Awards to that Class of Stock have been given for several years. In our opinion the bulk of Showyard Judges do not select as Prize Winners such specimens of the breed as the average farmer considers profitable Cattle for the production of either Milk, Butter, or Cheese. Farmers in the South-West of Scotland make their living principally from Dairying, and any departure from the type of Cow which has been proved to be the most profitable Dairy animal is, sooner or later, certain to have a very detrimental effect on farming.

"Showyard ideals, be they good or bad, must always have a considerable influence on the Stock in the country in the one direction or the other, and, in the opinion of your Memorialists, Ayrshire Cattle are in danger of losing the high position for usefulness hitherto associated with their name.

"We therefore humbly suggest that the Highland and Agricultural Society, as the National Agricultural Society of Scotland, should take this matter into their most serious consideration, and suggest such measures as will make it reasonably certain that Ayrshire Cattle, to which Awards are given, will—

"First—Be of a type eminently suited for Dairy purposes.

"Second—Be of thoroughly healthy constitution.

"Third—Be of mild and quiet disposition.

"Fourth—Be of such a form as will be pleasing to the eye, and likely to make a fair carcase when no longer useful for Dairy purposes.

"—We remain, Gentlemen, your most obedient Servants,

"(Signed) Sir Mark J. M'T. Stewart, Bart., of Southwick.
Sir Hugh Shaw Stewart, Bart., of Ardgowan.
A. Y. Allan, Aitkenbar, Dumbarton.
D. A. Clement, Greenland, Bowling.
Hugh M. B. Crawford, Chapmanton, Castle Douglas.
John Drysdale, Arngibbon, Port of Menteith.
James Dunlop, Midland, Fenwick.
G. J. Ferguson-Buchanan, of Auchentorlie, Bowling.
Hugh Ferrier, M.R.C.V.S., Alexandria.
John Finnie, South Camphill, Dalry.
Allan Barns Graham, jun., Craigallian, Milngavie.
James Hamilton, Aldersyde, Uddingston.
James Houston, Dumbarton.
James Howie, Hillhouse, Kilmarnock.
Robert Howie, Netherauldhouse, Pollokshaws.
Thomas Howie, Fairfield Mains, Monkton.
James Johnstone, Alloway Cottage, Ayr.
Duncan M'Lean, Dairyman, Dalmuir.
Adam W. Montgomerie, Lessnessock, Ochiltree.
J. Campbell Murray, Haggs Castle, Pollokshaws.
John Paterson, Torfoot, Strathaven.
John Pollock, jun., Springside, Howwood.
William H. Ralston, Dunragit Estate Office, Dunragit.
William Sloan, Shawsmuir, Closeburn.
Robert Smith, Middleton, Bowling.
Thomas Smith, The Castle, Maybole.
John Speir, Newton Farm, Newton.
Alex. M. Stevenson, Janefield, Symington.
J. Harling Turner, Portland Estate Office, Kilmarnock.
Robert Wallace, Auchenbrain, Mauchline.

"*4th June* 1906."

On the motion of Mr Cross, seconded by Dr Gillespie, it was resolved (1) that the Memorial be remitted to a Committee of the Board of Directors, (2) that that Committee be authorised to invite the Ayrshire Herd Book Society, the Ayrshire Agricultural Association, the Memorialists, and other bodies interested, to appoint representatives to confer with the Committee of Directors, and (3) that the Committee of Directors have power to add to this joint-Committee, and to report to the Board of Directors as to what steps, if any, should be taken with the view of giving effect to the desire of the Memorialists. The Committee of Directors was appointed as follows—viz.: Rev. Dr Gillespie, Convener, Mr Howatson, Mr Alex. Cross, Mr Taylor, Mr M'Caig, and Mr Paton. Mr John Speir was afterwards added to the Committee.

MEETING OF DIRECTORS, 7TH NOVEMBER 1906.

Present.—Vice-President—Mr John Wilson. *Ordinary Directors*—Mr Charles Howatson; Mr John Murray; Mr John Marr; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr John M'Hutchen Dobbie; Mr David Wilson, D.Sc.; Mr Thomas Gordon Duff; Colonel R. F. Dudgeon; Mr H. M. Leadbetter; Captain Thos. Hope; Mr Alex. Cross; Mr John M'Caig; Mr James Stenhouse; Mr W. S. Park; Major F. J. Carruthers; Mr David Ferrie; Mr E. Douglas Paton. *Extraordinary Directors*—Colonel Robt. Dundas; Mr H. T. N. Hamilton Ogilvy; Mr Alex. Guild, W.S.; Mr A. Agnew Ralston; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr F. W. Christie; Mr Andrew Ralston; Mr

James I. Davidson; Mr John Cran; Mr Wm. T. Malcolm; Captain Clayhills Henderson, R.N.; Mr R. Shirra Gibb; Mr Andrew Hutcheson; Mr John Speir. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Engineer*—Professor Stanfield. Alex. M. Gordon, and afterwards David Wilson, in the chair.

Deceased Members.

The Directors resolved to record in the Minutes expressions of the deep regret with which they received the intimations of the death of Sir Allan R. Mackenzie of Glenmuick, Bart., of Mr Charles J. Cunningham of Muirhouselaw, and of Mr James Biggar of Chapelton, and of their sense of the value of the services rendered to the Society by these gentlemen.

On the motion of Mr GORDON, seconded by Mr HUTCHESON, Mr David Wilson of Carbeth was unanimously re-elected Chairman of the Board for the ensuing year.

Mr WILSON thanked the Board for the honour conferred on him.

The Standing Committees for the ensuing year were appointed, the names to be printed as usual in the Premium Book.

Representatives on other Bodies.

The following were appointed representatives of the Society on the Boards of Management of the undernoted institutions for the ensuing year—viz.: *West of Scotland Agricultural College*—Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O.; John M. Martin, Murieston House, Mid-Calder. *Edinburgh and East of Scotland College of Agriculture*—R. Shirra Gibb, Boon, Lauder; James Macdonald, Secretary. *Aberdeen and North of Scotland College of Agricultvre*—T. Gordon Duff of Drummuir, Keith; William Duthie, Tarves. *Royal (Dick) Veterinary College*—John M. Martin, Mid-Calder.

Dipping of Sheep.

Mr HUTCHESON moved that the Standing Orders be suspended, so that he might submit a Resolution in connection with the Sheep-Dipping Order. The motion was seconded, and unanimously adopted. Mr HUTCHESON then moved: "That in view of the fact that in consequence of excessively wet weather many sheep-farmers had found it impossible to carry through the autumn dipping of their sheep, the Directors petition the Board of Agriculture to extend to the end of this month the prescribed dipping period, which expires on the 12th inst."

The motion was seconded by Mr M'CAIG, and unanimously adopted.

Peebles Show, 1906.

Accounts.—An Abstract of the Accounts of the Peebles Show was submitted, showing a probable surplus of about £415.

Edinburgh Show, 1907.

Date of Show.—The Secretary read a letter from Sir James Gibson-Craig stating that his Grace the Duke of Buccleuch had authorised him to state that their Royal Highnesses the Prince and Princess of Wales will go to Dalkeith Palace, and attend the Edinburgh Highland Show of next year if it is held in the second week of July.

The intimation of the Royal visit was received with hearty gratification, and it was resolved that the dates of the Show be the 9th, 10th, 11th, and 12th July.

It was resolved that the cordial thanks of the Board be conveyed to his Grace the Duke of Buccleuch, and that the Secretary write to Sir James Gibson-Craig thanking him for his letter, and expressing the regret of the Directors that he was unable through illness to be present at the Meeting, and hoping that he might be able to be with them soon again.

Forage.—The Secretary was instructed to advertise for tenders for the supply of forage. The following Committee was appointed to consider the tenders and report to the Board—viz., Mr Malcolm (Convener), Mr M'Hutchen Dobbie, Mr Christie, Mr Ferguson, Mr Shirra Gibb, Mr John Wilson, Mr Stenhouse, Mr Pendreigh, and Mr Ferrie.

Prize List.—The Secretary stated that the Shows Committee had met on 6th November, and had revised the Premium List. It was proposed that as usual their Report be printed and issued for consideration in detail at next Meeting of the Board, only certain urgent matters to be dealt with at this Meeting.

The Board approved of this course.

Special Prizes.—The following Special Prizes were accepted, and votes of thanks accorded to the donors:—

1. Shorthorn Society—Two Champion Prizes of £25 each for the best male and the best female Shorthorn, open to all, entered or eligible for entry in Coates's Herd-Book.

2. Polled Cattle Society—Champion Gold Medal for the best breeding Animal of the Aberdeen-Angus breed.

3. The Clydesdale Horse Society—The Cawdor Challenge Cup for best Clydesdale Mare or Filly, as at Peebles.

4. Sir John Gilmour of Montrave, Bart.—£25 in prizes for Yearlings by Thoroughbred Stallions, as at Peebles.

5. Captain Clayhills Henderson of Invergowrie, R.N.—£27 in prizes for Hunter Brood Mares with Foal at foot, as at Peebles.

6. Hunter Improvement Society—Gold Medal for best Hunter Filly not exceeding three years old, as at Peebles.

7. The Imperial Hunter Stud Book Co.—A Gold Medal, Silver Cup, or £10 in cash for the best Hunter Mare or Filly by a Thoroughbred or Hunter Sire registered in Vol. V. of 'The Imperial Hunter Stud-Book,' Boscombe, Hampshire; no Mare to take more than one of these special prizes each year, and the winner to pass sound and free from hereditary disease on the show-ground.

8. Society of Border-Leicester Sheep-Breeders—£10 for best Pen of Border-Leicester Sheep, as at Peebles.

9. The Cheviot Sheep Society—Perpetual Challenge Cup, gifted by Mr John Borthwick, value £25, for best Sheep in the Cheviot classes.

Derby Classes for Clydesdale Colts and Fillies—The Secretary read a letter from the Secretary of the Edinburgh Agricultural Association asking permission to have that Association's "Derby" Sweepstakes for Clydesdale Yearling Colts and Fillies carried out in the Highland Show at Edinburgh in 1907, on the same conditions as in 1899, it being understood that all Colts and Fillies coming forward to compete for the "Stakes" shall be likewise entered in the ordinary classes of the Highland and Agricultural Society.

The permission was granted.

Owners Leading their own Stock.—The following Resolution, adopted at the General Meeting of Members in the Showyard at Peebles on 18th July, was submitted: "That the Directors be asked to reconsider the Regulation adopted for this year's Show prohibiting exhibitors from leading their own stock in the judging ring in certain classes."

Mr MARR moved that the Board adhere to the Regulation in force at the Peebles Show. The motion was not seconded.

Captain CLAYHILLS HENDERSON moved that the Regulation be rescinded.

This motion was seconded by Mr HUTCHESON, and adopted.

Aberdeen Show, 1908.

Site and Local Fund.—(1) A letter was read from the Town Clerk of Aberdeen intimating that the Town Council have resolved to give a donation of £100 towards the Local Fund for the Show, to grant the use of the Links for the Showyard upon certain conditions, and to give a supply of water free of charge. (2) Letters were read from the County Clerks of Aberdeenshire and Banffshire intimating that their County Councils had resolved to raise sums of about £500 and £150 respectively in aid of the Show by means of a voluntary assessment on owners of lands and heritages.

The Secretary was instructed to convey the thanks of the Board to the Town Council of Aberdeen and to the County Councils of Aberdeen and Banff.

Vacancy on Board of Directors.

On the motion of Mr GORDON, seconded by Mr GORDON DUFF, it was unanimously resolved that Mr Chas. E. N. Leith Hay of Leith Hall be nominated for election as a Director in room of Mr Gordon, appointed Hon. Secretary. The nomination of Mr Leith Hay will be submitted to the General Meeting of Members in January next.

Milk Record Scheme.

On the recommendation of the Milk Records Committee it was resolved (1) "that the Milk Record Scheme be continued for 1907 on the former lines, on the understanding that herds which have already been tested under the scheme will not be again tested under it next year; (2) that the Committee be authorised to draft and submit a scheme or schemes whereby financial and other encouragement might be given by the Highland and Agricultural Society to induce dairy farmers to organise means for the systematic testing of the milk produce of their cows.

International Dairy Congress.

The Secretary read a circular letter inviting the Society to co-operate in the conducting of the International Dairy Conference to be held at The Hague in 1907.

It was resolved that Mr John Speir, Newton Farm, be appointed as a representative of this Society on the British Committee in connection with the Conference, and that he be made a member of the organising body.

Agricultural Research.

The Secretary read a letter from the Board of Agriculture regarding the foundation and constitution of a proposed National Council for conducting Agricultural Research.

The letter was remitted to the Educational Committee for consideration and report.

Grouse Disease Inquiry.

The Secretary read an application for a grant to the funds for meeting the expenses incurred by the Departmental Committee appointed by the Board of Agriculture to inquire into the question of Grouse Disease.

The Board did not see its way to take any action in the matter.

MEETING OF DIRECTORS, 5TH DECEMBER 1906.

Present.—Ordinary Directors—Mr Charles Howatson; Sir Robt. D. Moncreiffe, Bart.; Mr John Murray; Sir Archibald Buchan Hepburn, Bart.; Mr John Marr; Very Rev. John Gillespie, LL.D.; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr William Taylor; Mr W. S. Ferguson; Mr Thomas Gordon Duff; Colonel R. F. Dudgeon; Captain Thomas Hope; Mr Alexander Cross; Mr A. H. Anderson; Mr John M'Caig; Mr William Duthie; Mr C. M. Cameron; Mr James Stenhouse; Mr W. S. Park; Mr David Ferrie; Mr E. Douglas Paton; Mr J. Douglas Fletcher. *Extraordinary Directors*—Mr Alex. Guild, W.S.; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr Andrew Ralston; Mr James I. Davidson; Mr John Cran; Mr Wm. T. Malcolm; Captain Clayhills Henderson, R.N.; Mr R. Shirra Gibb; Mr John Speir. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Auditor*—Mr Wm. Home Cook, C.A. Mr Alex. M. Gordon in the Chair.

Edinburgh Show, 1907.

Site.—It was reported that arrangements had been completed for holding the Show at Prestonfield, on the ground on which the Society's Show of 1899 was held.

Prize List.—The Reports of the Shows Committee of 7th November and 5th December 1906 were submitted and adopted, except as stated below.

Calving Conditions for Ayrshire Cows.—The Standing Orders having been suspended, Mr CROSS moved that the Calving Regulations be altered so that Ayrshire Cows exhibited in calf will be qualified if they have produced a calf at any time within fifteen months prior to the first day of the Show.

Mr SPEIR seconded, and the motion was unanimously adopted.

Swine.—It was resolved to delay the introduction of the proposed changes in the Regulations and Classes for Swine till the Show of 1908.

Shorthorn Heifers with Calf at Foot.—A letter was submitted from Mr C. M. Cameron recommending that a class be introduced for Three-year-old Shorthorn Heifers with Calf at foot.

Dr GILLESPIE moved that prizes be offered in a separate class for Three-year-old Heifers with Calf at foot, of all the breeds, with the exception of Highland Cattle. Mr M'CAIG seconded.

Mr FERGUSON moved the previous question. Mr DUTHIE seconded.

On a show of hands being taken, the previous question was carried by 21 votes to 10.

Special Prizes.—The following Special Prizes were accepted, and votes of thanks accorded to the donors :—

1. Ayrshire Cattle Herd-Book Society—A Special Prize of £10 for the best Animal of the Ayrshire breed, entered with a number in that Society's Herd-Book.

2. Hackney Horse Society—A Special Prize of £10, or Gold Medal, for the best Mare or Filly exhibited in the Hackney or Pony classes, on the same conditions as at Peebles.

3. Polo and Riding Pony Society—A sum of £15 towards the prizes for Highland Ponies, on the same conditions as at Peebles.

4. Mr W. Mungall, Transy, Dunfermline—(1) Piece of Silver, value £10 to £12, for best group of Shetland Ponies, to consist of one male and two females drawn from the ordinary classes; and (2) Silver-mounted Hoof of the celebrated Shetland Pony "Odin" (32), for the best Shetland Pony Foal, foaled after 31st March 1907, and exhibited with its dam in the ordinary class for Shetland Pony Mare with Foal at foot, or as Extra Stock; (3) Silver Medal for best Shetland Pony.

Forestry Exhibition.—It was resolved to give free space in the Showyard to the Royal Scottish Arboricultural Society for the usual Forestry Exhibition, and also to give a grant of £20 for prizes for timber grown in the United Kingdom, the conditions to be the same as heretofore.

Potato Dressing Machine.

On the recommendation of the Implement Committee, the Society's large Silver Medal was awarded to Mr David Wilson, East Linton, for his Machine for sorting and dressing Potatoes, which was exhibited at the Peebles Show.

Implement Department of the Highland Show.

The Implement Committee recommended that, in deference to representations from Implement Exhibitors, no further action be taken with regard to the proposed changes in the Regulations and Entry Fees for the Implement Department of the Society's Show.

Judging Ayrshire Cattle.

The SECRETARY submitted the Minutes of Special Committee of 5th December, and of Conference held at Glasgow on 23rd November.

On the motion of Dr GILLESPIE, seconded by Mr ANDERSON, the recommendations of the Special Committee were adopted.

The Minutes showed that the Special Committee recommended approval of a qualifying Milking test for Ayrshire Cows exhibited in milk at the Highland Show, but that it be remitted to a Committee to arrange to have this test carried out before the opening of the Show.

Work of the Board of Agriculture in Scotland.

In the absence of Mr Andrew Hutcheson, Dr GILLESPIE moved: "That the Directors of the Highland and Agricultural Society of Scotland, having observed that in the Small Landholders (Scotland) Bill there is a proposal which would have the effect of transferring part of the work of the Board of Agriculture to the Department of the Secretary of State for Scotland, desire to record their opinion that this step would be detrimental to the interests of Scottish agriculture, and that it is important that all the branches of the work of the Board of Agriculture should remain under the special care of the Minister of Agriculture for Great Britain."

Mr MARR seconded, and the motion was unanimously adopted.

Vacancies in the Board of Directors.

A letter was read from Mr C. E. N. Leith-Hay agreeing to nomination for election as an Ordinary Director in room of Mr Gordon of Newton.

On the motion of Mr SCOTT PLUMMER, seconded by Mr PATON, it was resolved to nominate Mr Athole S. Hay of Marlfield as an Ordinary Director in room of the late Mr Chas. J. Cunningham of Muirhouselaw.

Conference of Show Officials.

A letter was read from the President of the Royal Agricultural Society of England inviting the Society to nominate representatives to attend a Conference to be held in London next spring of Secretaries and other Representatives of leading Agricultural Societies.

It was unanimously resolved to appoint the Chairman of the Board and the Secretary.

MEETING OF DIRECTORS, 9TH JANUARY 1907.

Present.—Vice-President—Mr John Wilson. *Ordinary Directors*—Mr Charles Howatson; Sir Robt. D. Moncreiffe, Bart.; Mr John Murray; Sir Arch. Buchan Hepburn, Bart.; Mr John Marr; Very Rev. John Gillespie, LL.D.; Mr Jonathan Middleton; Mr C. H. Scott Plummer; Mr William Taylor; Mr W. S. Ferguson; Mr David Wilson, D.Sc.; Mr John Macpherson-Grant; Mr H. M. Leadbetter; Captain Thos. Hope; Mr Alex. Cross; Mr A. H. Anderson; Marquis of Tullibardine, D.S.O., M.V.O; Mr John M'Caig; Mr Wm. Duthie; Mr W. S. Park; Mr J. Ernest Kerr; Major F. J. Carruthers; Mr David Ferrie; Mr E. Douglas Paton. *Extraordinary Directors*—Col. Robert Dundas; Mr Alex. Guild, W.S.; Mr A. Agnew Ralston; Mr George Pendreigh; Mr Harry Hope; Mr James S. Dickson; Mr E. Hedley Smith, B.L.; Mr F. W. Christie; Mr John M. Aitken; Mr James I. Davidson; Mr John Cran; Mr William T. Malcolm; Mr R. Shirra Gibb; Mr John Speir. *Treasurer*—Sir James H. Gibson-Craig, Bart. *Hon. Secretary*—Mr Alex. M. Gordon. *Chemist*—Mr James Hendrick, B.Sc. *Auditor*—Mr William Home Cook, C.A. Mr David Wilson in the Chair.

Edinburgh Show, 1907.

Forage.—It was resolved to accept the offer of the Forage Supply Co., 16 Stafford Street, Edinburgh, to supply forage for the Edinburgh Show.

Stewards.—The Stewards of the various departments were reappointed as follows: Cattle—Rev. Dr Gillespie; Horses—Mr Ferguson, Pictstonhill, and Mr Leadbetter, Legerwood; Sheep, Swine, &c.—Mr Wilson, Edinburgh; Forage—Mr W. T. Malcolm, Dunmore Home Farm; Parade Stands—Mr Paton, Broomhill; Gates—Mr M'Hutchen Dobbie, Campend; Implements—Mr Middleton.

Hotel Accommodation.—The SECRETARY stated that arrangements had been completed for accommodation for the Directors and Judges during the Show at the Caledonian Railway Hotel, Edinburgh.

Judging Ayrshire Cows.—The Minutes of Meeting of Special Committee, 9th January, were submitted and approved. The Minutes detailed the Regulations adjusted for the judging of Ayrshire Cows, these Regulations to be printed in the Premium List for the Edinburgh Show.

President's Medals.—The SECRETARY stated that the Duke of Buccleuch desired to offer a President's Medal as usual for each breed of live stock, and was agreeable that this Medal in each section should be awarded to the best animal of the opposite sex to that of the winners of the Prince of Wales' Champion Gold Medal.

The offer of his Grace was cordially accepted, and the Secretary was instructed to convey to him the best thanks of the Directors.

Special Prizes for Blackface Tups.—A letter was read from Mr Howatson of Glenbuck offering the following Special Prizes: For best Shearling Blackface Tup entered in the ordinary Class, clipped on or after 1st April 1907, no part of the animal to be clipped prior to that date—Prizes, £10, £5, and £2.

The offer was cordially accepted, and the Secretary was instructed to convey the best thanks of the Board to Mr Howatson.

Veterinary Surgeon.—Principal Dewar, of the Royal (Dick) Veterinary College, was appointed Veterinary Surgeon for the Edinburgh Show, at the usual fee of ten guineas.

Butter-Making Competition.—The SECRETARY stated that he had been asked whether the Society would be disposed to organise Butter-Making Competitions in the Edinburgh Show.

It was unanimously resolved that no Butter-Making Competitions be held, but that Butter-Making Demonstrations be given at the Working Dairy in the Showyard, as in recent years.

Prizes for Hunting Horses.—The SECRETARY stated that the Special Committee appointed at last Meeting of the Board to adjust the classes and prizes for Hunting Horses asked to be allowed to go the length of £250 in prize-money from the Society's own funds.

This was agreed to, and powers were given to the Committee to arrange the classes and prizes.

Alcoholic Drinks in the Showyard.

The SECRETARY submitted the following Report: Circulars were issued to all exhibitors in the Implement Department of the last three Shows inviting them to say whether or not they approved of the proposal to prohibit the free distribution of alcoholic drinks from stands in the Show.

Number of circulars issued	296
Number of replies received	181
Number of exhibitors who have not replied	115

The 181 who replied answer as follows:—

For prohibition	163
Against	15
Neutral	3

On the motion of Mr Speir, seconded by Mr Duthie, it was unanimously resolved that the following provision be introduced into the Regulations for the Society's Annual Show: "The giving of alcoholic drinks to visitors at stands in the Shows is strictly prohibited."

Vacancy on the Board of Directors.

A letter was read from Mr Athole S. Hay of Marlfield agreeing to nomination for election as an Ordinary Director for the Border District in room of the late Mr C. J. Cunningham.

Milk Records.

On the recommendation of the Milk Records Committee it was resolved that, for the first year under the new scheme of Attested Records, the Committee be authorised, if it should see fit, to make an additional special grant, not exceeding £8, in any case where, in the opinion of the Committee, such special grant may be necessary to enable work to be set agoing under the scheme.

Stirling Show, 1909.

The Chairman moved as follows: "That provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1909 be held in the Stirling District."

Mr Malcolm seconded.

The Resolution was unanimously agreed to.

Grants.—It was agreed to recommend the renewal for the current year of the grant of £100 to the Kilmarnock Dairy School. It was resolved to recommend the renewal for the current year of the grant of £50 to the Lecturer on Forestry in the University of Edinburgh.

Judges were appointed for the Edinburgh Show.

Finance.

The Minutes of the Finance Committee were approved generally, and it was unanimously resolved that the matters relating to the Society's investments in heritable securities be remitted with powers to the Finance Committee.

PROCEEDINGS AT GENERAL MEETINGS.

GENERAL MEETING, 6th JUNE 1906.

Dr Shirra Gibb, Vice-President, in the chair.

New Members.

160 candidates were balloted for and admitted as members.

Free Life Member.

The following winner of the Society's First-Class Certificate in Forestry, at the examination in April last, was elected a Free Life Member, in terms of the bye-laws: Wm. T. Stockley, Rose Villa, Garswood, near Wigan.

Office-Bearers.

The Secretary submitted the following list of office-bearers, as recommended by the Directors:—

President—The Duke of Buccleuch and Queensberry, K.G., K.T. *Vice-Presidents*—The Marquis of Linlithgow, K.T.; the Earl of Rosebery, K.G.; the Earl of Wemyss; Mr John Wilson (Chapelhill), Edinburgh. *Ordinary Directors*—James Stenhouse, Turnhouse, Cramond Bridge; W. S. Park, Hatton, Bishopton; J. Ernest Kerr, Harviestoun Castle, Dollar; Major F. J. Carruthers of Dormont, Lockerbie; David Ferrie, Parbroath, Cupar-Fife; E. Douglas Paton, Broomhill, Melrose; J. Douglas Fletcher of Rosehaugh, Avoch, R.S.O. *Extraordinary Directors*—The Right Hon. the Lord Provost of Edinburgh; Sir W. S. Dick Cunyngham of Prestonfield, Bart.; Colonel Dundas, yr. of Arniston, Kirkhill, Gorebridge; H. T. N. Hamilton Ogilvy of Beil, Winton Castle, Pencaitland; Alex. Guild, W.S., 5 Rutland Square, Edinburgh; A. Agnew Ralston, Philipstoun House, Philipstoun; George Pendreigh, Dalhousie, Bonnyrigg; Harry Hope, Barneyhill, Dunbar; James S. Dickson, Damhead, Loanhead; E. Hedley Smith, Whittinghame, Prestonkirk; F. W. Christie, Dairsie Mains, Dairsie, R.S.O.; Andrew Ralston, Glamis; John M. Aitken Norwood, Lockerbie; James I. Davidson, Saughton Mains, Corstorphine; John Cran, Kirkton, Bunchrew, Inverness; Wm. T. Malcolm, Dunmore Home Farm, Larbert; Captain Clayhills Henderson of Invergowrie, R.N., Dundee; R. Shirra Gibb, Boon, Lauder; Andrew Hutcheson, Beechwood, Perth; John Speir, Newton Farm, Newton, Glasgow. *Honorary Secretary*—Alex. M. Gordon of Newton, Insch, Aberdeenshire.

Agreed.

Life Members' Subscriptions.

Dr Wilson moved the resolution which had been adopted at the Directors' Meeting earlier in the day, for the raising of the rate of the Lower Life Subscription. He explained that this step had become necessary, because they were advised by the Actuary that, on account of the fall in the value of investments, the amount now payable by life members at the lower rate was not fairly relative to the amount paid by annual members. Dr Gillespie seconded.

Mr Geo. Prentice of Strathore, while not disposed to move in a contrary direction, as he saw no hope of carrying such a motion in such a thin meeting, desired to keep his hands free. He did not agree with what the Directors were proposing. The result would be to discourage life members, and he thought that was a bad policy.

All the Society needed was funds to keep it going, and certainly there was no lack of that in this Society. Mr W. S. Ferguson said that, even with the new proposals, the life members would have the best of it. Mr R. T. Naismith said that this was purely a question for an actuary, and there could be no doubt but that the proposal was thoroughly sound.

The resolution was adopted unanimously.

Peebles Show, 1906.

Mr Scott Plummer, Convener of the Local Committee, reported on the arrangements for the Show to be held at Peebles on the 17th of July and three following days.

Edinburgh Show, 1907.

It was reported that arrangements for the Edinburgh Show of 1907 are well advanced. The County Councils of Mid-Lothian and East Lothian had been good enough to agree to raise a voluntary assessment in aid of the funds of the Show. This course had not been followed by the County Council of West Lothian, but it is hoped that this county will contribute in other forms.

Aberdeen Show, 1908.

Mr Alex. M. Gordon of Newton stated that arrangements are being pushed forward for the Show of 1908, to be held at Aberdeen. He had no doubt whatever that all the counties would contribute loyally. He saw that the Town Council of Aberdeen was to give £100, a free supply of water, and a free site, but, considering the fact that Sir David Stewart had said that last Show at Aberdeen brought £50,000 to £60,000 into the town, he thought the town might well afford to give a more generous donation than £100.

Education.

Dr Gillespie reported on this year's examinations for the National Diplomas in Agriculture and Dairying. In regard to the National Diploma in Agriculture, he stated that in all twenty-three educational institutions have sent one or more candidates to one or other of the seven examinations which have been held. The names of these institutions are as follows: English Institutions—Holmes Chapel, Cheshire; Uckfield Agricultural College; Armstrong College, Newcastle-on-Tyne; Aspatria College, Carlisle; Cambridge University; Harris Institute, Preston; Leeds University; Reading University College; Royal Agricultural College, Cirencester; South-Eastern Agricultural College, Wye; University College, Nottingham; Royal School of Mines, Kensington; Midland Agricultural and Dairy Institute, Derby; Hull and E. R. College; Tamworth Agricultural College. Scotch Institutions—Aberdeen University (North of Scotland Agricultural College); Edinburgh University (Edinburgh and East of Scotland College of Agriculture); West of Scotland Agricultural College, Glasgow; St Andrews University. Welsh Institutions—Harper-Adams College, Newport; University College of North Wales, Bangor; University College of Wales, Aberystwyth. Irish Institutions—Royal College of Science, Dublin. The only schools or colleges of agriculture that have not been represented at either of the last two examinations are: Edinburgh and East of Scotland College of Agriculture; Downton College, Salisbury; Dauntsey Agricultural School, Wilts; and Midland Agricultural and Dairy Institute. He said that, as one who had been present at that examination, and not claiming to be a great agricultural expert, but simply, he hoped, one of several men of common-sense, they could testify that the examination was of the most satisfactory nature. While not conceding that examiners should be teachers, and, indeed, objecting altogether to teachers examining their own students in national tests, he pointed out that in eight of the eleven subjects examined, all those who were examiners had been teachers. He also remarked on the increased standard by which the students were tested as brought out by the results in successive years.

Mr Hedley Smith wished to call attention to the fact that students could sit for the N.D.A. who had not attended any college. He also thought it was a mistake to suppose that teachers could not sit on the examining boards over their own students.

Science Department.

Dr Wilson of Carbeth, Convener of the Science Committee, reported on the work carried on under that Committee. He mentioned that the manure and mutton experiments are being continued this year on the same lines as formerly. He also indicated the steps taken by the Board of Directors for the amendment of the Fertilisers and Feeding Stuffs Bill.

The following Report by the Society's Chemist was read:—

Report on Analyses made during the Year 15th May 1905 to 15th May 1906.

During the year 126 samples were analysed for members by the chemist. These included fertilisers, feeding-stuffs, waters, milks, soils, and miscellaneous samples. The fertilisers included a considerable number of samples of ground lime. In many cases these were of very low quality. When a guarantee was given, the samples were frequently below the guarantee. This subject has already been referred to in the report of the chemist on analyses made for the members during 1905 ('Transactions,' 1906, p. 77). There is some improvement noticeable in samples of ground lime received during 1906; but several samples have been received quite recently with a guarantee of 70 per cent of caustic lime, which were seriously deficient in this constituent.

Samples of potash manure salt, which is a low-grade muriate of potash, are still often sold as sulphate of potash. There is a great difference in value between the two manures.

During the year internal organs of animals were on several occasions sent to be examined for poisons. These included a case of poisoning by Java beans. It is most important that members should remember that, in forwarding samples of internal organs to be examined for poisons, all possible information as to symptoms, *post-mortem* appearances, &c., should be sent to the chemist. It is often almost impossible to detect poisons, especially the less common vegetable poisons, unless such information of a pathological kind is given to the chemist as will enable him to judge what class of poison he is to look for. In a case of poisoning, if a veterinary expert has been called in before or after death, he should be put into communication with the chemist, and asked to give him all the assistance he can.

Botanical Report.

The following report by the consulting botanist was read: I have the honour to report that during the past season I have examined 200 samples of grass and clover seeds. The standard of the seeds was, as a rule, very high, the two most conspicuous exceptions being a low-class white clover and a low-class Italian ryegrass. The maximum and minimum values of the samples tested, obtained by multiplying percentage of purity by percentage of germination and dividing by 100, was—

SPECIES.	Max. value.	Min. value.
Red clover	99	92
Cowgrass		92
Alsyke	99	82
White clover .	97	74
Trefoil	98	93
Kidney vetch	94	90
Perennial ryegrass	99	87
Italian ryegrass	100	68
Meadow fescue	100	83
Tall fescue .	92	80
Hard fescue .	96	65
Cocksfoot .	97	65
Timothy .	99	92
Crested dogstail	98	90
Meadow foxtail	80	65
Rough-stalked meadow grass	94	80
Chicory	95	80
Burnet	93	87

Argyll Naval Fund—Centenary of the Fund.

Captain CLAYHILLS HENDERSON stated that this fund was founded a century ago by John, fifth Duke of Argyll, who was the original president of the Highland and Agricultural Society. The main object his Grace had in view in establishing the fund was to encourage young men from Highland districts to enter the Royal Navy. In January 1806 the Duke paid over a sum of £1000 to the Highland and Agricultural Society, the hope being entertained that subscriptions from other sources might be forthcoming. The management of the fund having been entrusted to the directors of the Highland and Agricultural Society, the £1000 was at once invested by that body, and efforts were made, but without success, to obtain additional subscriptions. The sum was allowed to accumulate till the end of 1826, when it amounted to £2314. A committee was then appointed to formulate conditions for the application of the proceeds of the fund, and in 1827 the first set of regulations were published. These regulations provided that the fund be devoted exclusively to the encouragement of the naval profession, and that "the younger sons of Highland gentlemen only be allowed to participate in it." These regulations were modified slightly from time to time. In 1857 the clause restricting the benefits of the fund to "younger sons" was omitted, and the fund made available for "the son of any gentleman connected with the Highlands." The districts to which it was understood the fund was to be devoted are the counties of Argyll, Inverness, Nairn, Ross, Cromarty, Sutherland, and Caithness, and the Gaelic parts of Perth, Moray, Banff, Aberdeen, and Bute and Arran. The first recipient received £10 in 1827, four recipients having obtained grants amounting to £380 by the end of 1837. From 1837 to 1844 there were no applicants, although the vacancies were regularly advertised. Meantime the fund kept on growing, and it had reached £4700 by 1844, when the annual allowance was increased to £40. The fund now amounts to £7337, yielding an income of £222 per annum. At present there are five beneficiaries on the list, each receiving a grant of £40 a-year. In all, forty-eight cadets have received the benefit of the fund, the total sum paid to them to the present date amounting to £9746. The beneficiaries of the fund have given a creditable account of themselves in the Royal Navy. One (Sir John M'Dougall, K.C.B.) became a vice-admiral, two rear-admirals (Sir Charles Campbell, K.C., M.G., C.B., D.S.O., and Robert A. I. Montgomerie, C.B., C.M.G.), two captains (Charles Dundas of Dundas and George P. W. Hope), eleven commanders (George Pirie, Soudan medal, and Edward W. E. Wemyss, gazetted for gallantry in action, 1894), while twelve reached the rank of lieutenant, Colin Mackenzie getting D.S.O., and Percy L. H. Noble M.V.O.

GENERAL MEETING IN THE SHOWYARD AT PEEBLES, 18TH JULY 1906.

Sir **WALTER THORBURN**, President of the Society, occupied the chair.

The **CHAIRMAN** at the outset acknowledged the honour done him, and said he had accepted the position of president mainly because he regarded it as an honour done to the county more than to himself. He assured the members of the desire of the town and district to make the Show so successful as to cause the Society to repeat its visit to Peebles.

Mr **JOHN MACPHERSON-GRANT** moved a vote of thanks to the Provost, Magistrates, and Town Council of Peebles, remarking upon the enthusiasm with which the civic representatives had worked for the Society in its visit to their town.

Mr **JONATHAN MIDDLETON**, Glastullich, seconded, which was cordially adopted.

Provost **BALLANTINE**, replying, said he supposed there had been differences of opinion as to where the Show should be held this year; but if he gauged the temper of the members of the Society correctly, there were fewer now who disagreed with Peebles being the Show centre, and he hoped, with a continuance of the good weather, the Show would in every way be a great success.

Mr **A. M. GORDON**, to whom fell the duty of moving the resolution of thanks to the subscribers of the Local Show Fund, mentioned that the town of Peebles and the counties comprising the Show district had acted very liberally, nearly £1500 being contributed to the local fund. He hoped other districts would follow the example of Peebles and act with equal liberality.

Mr **ALEX. CROSS** seconded, and the motion was adopted unanimously.

Dr **GILLESPIE**, proposing a vote of thanks to Mr Scott Plummer, the convener, and the members of the Local Show Committee, testified to the capacity shown in carrying out the arrangements.

The motion was seconded by Mr **MARR**, carried unanimously, and responded to by Mr **SCOTT PLUMMER**.

The **CHAIRMAN** said a very pleasing duty now fell upon him, and that was to propose a vote of thanks to Sir Thomas Elliott, Secretary of the Board of Agriculture, for coming from London to be present at the Show. He thought it promised well for agriculture when they found that, whatever Government was in office, the Board of Agriculture was always to the front in connection with shows or with anything of interest to agriculture.

Sir **THOMAS ELLIOTT**, who had a cordial reception on rising to acknowledge the vote, said he desired to express, not only on his own behalf but on behalf of his colleagues of the Board of Agriculture, their most grateful thanks for the kind hospitality and the goodness of the reception extended, not only on the occasion of this Show, but on all occasions of the gathering of the Highland and Agricultural

Society. It was a matter of great regret to him that Lord Carrington and Sir Edward Strachey, who represented the Board in the House of Commons, were not able to be present with them that day, because it would have done them good to come in contact with Scottish agriculturists, and to be heartened, as members of the Board were always heartened, by the good feeling and fellowship which prevailed on this side of the Tweed. On behalf of Lord Carrington and Sir Edward Strachey he had to state that they were engaged in what might be called harvesting operations in Westminster, and the little crop of bills which it had been their duty to look after in the agricultural interest was really, he thought, going to be this session quite a fairly good crop. They had, he thought, reasonable hope for expecting that they would get the Royal assent this year to the Fertilisers and Feeding-Stuffs Bill. That bill, he believed, without doing in any way injury to the trade, would be a substantial benefit to the agriculturist in making it certain that he would get good value for his money. He believed they would also get the Dogs Bill which, he thought, would do something to minimise the very serious evil they all suffered from in regard to the worrying of sheep. He did not know that it would altogether remove the mutton-loving dog from their midst, but it would provide Local Authorities with machinery to assist agriculturists in dealing with the evil. He hoped also that they would get a bill for acquiring open spaces, which, although not an essentially agricultural bill, would be of great service to all classes of the population in securing for them means of procuring fresh air and recreation. In addition to the harvesting operations they had also sown the seed of a future crop in the shape of what he hoped would remove the difficulties in regard to the adulteration of butter. Butter was an article that had been subjected to more unfair competition than anything else, and although perhaps in Scotland that competition had not been felt so severely as in other parts, no doubt legislation was required to put an end to the abuse.

Exhibitors leading their Stock.

Mr **Shennan**, Balig, Kirkcudbright, drew the attention of the meeting to the regulation prohibiting exhibitors from leading their own animals before the judges. He held that it pressed heavily on many of the exhibitors, especially on the smaller tenant-farmer class. He did not think it fulfilled the object in view, because the stud-groom and the herdsman were quite as well known to the judges as the owners of the animals they paraded were, and, in addition, it was not complimentary to the judges. He moved that the meeting ask the Directors to reconsider the regulation.

Mr **Thomas Graham**, Marchfield, Dumfries, seconded.

Mr **Robert Gardiner** of Henhill, Auchterarder, thought the Directors had taken a wise step, and he moved as an amendment that the regulation stand.

Mr **Scott**, South Woodend, seconded.

Rev. Dr **Gillespie** supported the motion. He thought that it really carried absurdity on the face of it. If their judges could not be trusted they should not be there. This spirit of suspicion that was abroad should be trampled upon, and if a spirit of mutual trust were more cultivated it would be much better for all parties.

Mr **Ferguson**, Pictstonhill, also supported the motion, which was ultimately carried by a large majority.

A vote of thanks to the Chairman, awarded on the call of Lord Tullibardine, concluded the proceedings.

GENERAL MEETING, 9TH JANUARY 1907.

Dr **Wilson** of Carbeth in the chair.

New Members.

137 candidates were balloted for and admitted as members.

New Directors.

Mr C. E. N. Leith-Hay of Leith Hall, Kennethmont, was elected a Director in place of Mr A. M. Gordon of Newton, who has been appointed Honorary Secretary; and Mr Athole S. Kay of Marlfield was elected an Ordinary Director for the Border district in room of the late Mr C. J. Cunningham.

Finance.

Sir James Gibson-Craig laid on the table the volume of accounts for the year to 30th November 1906, as prepared by the Society's Auditor. The Peebles Show had left a credit balance of £415, thanks mainly to a local fund amounting to £1489. The total receipts from members' subscriptions amounted to £2046, being £157 less than for 1904-5. The balance of receipts over expenditure was £1800, including £950 of life subscriptions. The total payments for the year amounted to £10,694.

Argyll Naval Fund.

Mr Cross submitted the accounts of the Argyll Naval Fund for 1905-6, which showed that the income for the year amounted to £221, 19s. 4d., while the expenditure was £200—in grants of £40 each to five naval cadets. No vacancy occurred during the year in the list of beneficiaries.

Lower Life Subscriptions.

Sir James Gibson-Craig moved the alteration in the Bye-laws recommended by the Directors—viz.: That Bye-law No. 2 be altered so as to provide that the payment for the purchase of a life subscription be £7, 7s. instead of £5, 5s., and that after eight annual payments of 10s. have been made, a life subscription may be purchased for £5, 5s., and after twelve such payments for £3, 3s. The fact was, he said, that money did not go as far now as it used to do. He explained the actuarial calculations on which the recommendations were based, which showed that at the present rate the life subscription was not sufficient. Every man, he was sure, would like to pay his way.

Mr John Marr seconded.

Mr Hedley Smith asked if these new Bye-laws were to take effect in connection with the members elected that day.

The Chairman replied to the effect that they would not. They would apply only to members elected after that day.

The motion was unanimously agreed to.

Peebles Show.

Mr H. M. Leadbetter, in the absence of the Convener of the Local Committee, reported on the Peebles Show of 1906. The results of the Show had in every way exceeded expectations. The weather was moderately favourable, the attendance of the public was gratifyingly large, and the drawings all over were so handsome that, instead of resulting in a loss, as was anticipated, the Show left a profit of £415.

Edinburgh Show, 1907.

Sir James Gibson-Craig reported that arrangements are making good progress for the Show of 1907, which is to be held at Edinburgh on Tuesday, 9th July, and three following days. It has been arranged by the President of the Society, his Grace the Duke of Buccleuch, that their Royal Highnesses the Prince and Princess of Wales will visit the Show on the second and third days, the 10th and 11th of July, and will witness the parades of stock and jumping competitions. Already the intimation of the Royal visit has aroused much gratification and interest throughout all parts and all classes in the country, and there is every reason to believe that the Show will form an outstanding event in the history of the Society. The Show will be held on the ground at Prestonfield, where the great Show of 1899 took place. A specially liberal prize-list is being arranged. The County Councils of Mid-Lothian and East Lothian are raising funds by means of voluntary assessments in aid of the Show. In West Lothian a fund is being raised by private subscriptions. They must try and do better than they did in 1899. They drew over £10,000 then, and they must do better this time.

Aberdeen Show, 1908.

Mr A. M. Gordon reported that some progress had been made with the arrangements for the Show of 1908, to be held at Aberdeen. The Town Council of Aberdeen, besides voting a contribution of £100, had granted a site for the Show on the Links, along with a supply of water, both free of charge. The County Councils of Aberdeen and Banff had resolved to raise funds in aid of the Show by means of voluntary assessments on owners of lands and heritages, and it was hoped that this example will be followed by the County Councils of Forfar (Eastern Division) and Kincardine. He hoped they would be able to get the Council of Aberdeen to increase their subscription.

Board of Agriculture.

Rev. Dr **Gillespie** moved that the members of the Highland and Agricultural Society strongly disapprove of the proposal made in a Government Bill recently before Parliament to transfer the powers of the Board of Agriculture in Scotland to Commissioners, under the Secretary of State for Scotland. He said that everywhere throughout Scotland they had been well satisfied with the result of the establishment and operation of the Board of Agriculture, and this proposed change would be a very backward step indeed. They had a great national Board, occupying a very independent and important position. He thought Mr Chaplain did a very great service indeed when he absolutely refused to become President of the Board at its institution unless he was given Cabinet rank. They wanted the Board to be in touch with the Government. Under this change which it was proposed to make they would have a civil servant administrating in Scotland. Such a man would have very little influence, especially in connection with money matters. They required one who would be able to reach the ear of the Treasury. The Board of Agriculture, through its President, kept in close and constant touch with Scotland and Scotch interests. Then as to the question of rules and regulations in regard to the removal of stock and such like, it was a most important thing that there should be uniformity all over the two countries. Were there two organisations there might be the most conflicting orders, and the result would be stagnation in trade. It was most desirable that whatever regulations were in force should be uniform throughout both parts of the kingdom. He thought they should put their foot down firmly in the matter, and express the hope that agricultural societies and others interested throughout Scotland would make their views heard, and let the Cabinet understand that, if they repeated the proposal, the heather would be on fire.

Mr W. S. **Park** seconded, and the motion was unanimously agreed to.

Stirling Show, 1909.

The **Chairman** moved that, provided a suitable site is available, and satisfactory financial and other arrangements can be made, the Society's Show of 1909 be held in the Stirling district.

Mr **Anderson** seconded, and the motion was agreed to.

District Shows and Competitions.

Mr **John Speir** submitted the report on the district shows and competitions, showing that in 1906 grants of money and medals have been given in 324 districts. The total expenditure under this head amounted to £669. For the current year the Directors proposed the following grants: (1) Under Section 1, twenty-one districts for grants of £12 each for cattle, horses, and sheep, and eleven districts in intermediate competition with a grant of three silver medals to each. (2) Under Section 2, fifteen districts for grants of £15 each for stallions. Special grants of £40 for Highland home industries; £20 to Kilmarnock Cheese Show; £3 each to Orkney, East Mainland, and Sanday in Orkney. Twenty-one districts for two medals each. About 150 medals at ploughing competitions. Two medals each to thirteen districts for cottages and gardens,—making the total sum offered in 1907, £667. He thought they were doing more for local societies than was publicly known.

Mr **John Marr**, in seconding, said that he was sure that the money that they spent all over the country in aid of local societies did far more than the value of the money to popularise that Society, and did real good. It brought the Society into notice, and it was only right that the national Society should do what it was doing to encourage local effort.

The report and recommendations were unanimously adopted.

Science Department.

Mr **James Hendrick** submitted the report on the work of this department. During the year 149 samples were analysed for members by the chemist. Of these, 85 were fertilisers, 34 feeding-stuffs, and 30 miscellaneous samples, including waters, milks, and viscera of animals for examination for poisons. Of the fertilisers 19 samples consisted of lime. Though these were of rather better quality than in 1905, a large number of the samples were again of low quality. In accordance with the desire of the Directors that further steps should be taken to expose cases of deficiency or fraud, a circular was drawn up, and a copy of this has been sent, along with the analysis, to each member who submitted a sample of a fertiliser or feeding-stuff. The circular requests members to give the chemist information as to any guarantee under which the goods were sold; as to the price, and as to any other points likely to be of assistance in forming an opinion whether the article sampled was good of its kind, and worth the money paid for it. Several samples of fertilisers and feeding-stuffs have been found to be deficient or adulterated, but no action has as yet been taken by the members who submitted the samples to expose the vendors, with the help of the Society. During the year some investigations were made into the origin, nature, and properties of poisonous beans from Java, which caused serious trouble among cattle on several farms in the latter part of 1905 and the early part of 1906. A full report on these investigations will be submitted in due course. Some experiments upon the quality of turnips grown in different districts have been made during the year. The pasture and mutton experiments at Sunderland Hall, Boon, and Naemoor have been continued, and further interesting results have been obtained. At all these stations the manures applied in 1902 are still producing appreciable results. At Boon, in particular, the effects of the manuring are apparently becoming more marked with the lapse of time. The full return obtained from the application of these manures can only be estimated by taking the results for a considerable number of years.

Mr **Prentice**, Strathore, wondered if the Society could do anything in the way of instituting or helping prosecutions of those who sold deficient stuffs. It was not a nice thing for an individual, especially a small farmer, to raise this question with a large dealer. With regard to the experiments, he thought that now that agricultural colleges had been instituted, and had received grants from the Society, they should undertake this work. The Directors should, therefore, consider whether or not these experiments should be given up. It was all very well to undertake them at the time they were begun, and they had done a great deal of good, but the times had changed.

Dr **Gillespie**, as chairman of the governors of one of the agricultural colleges, said they would be quite willing to undertake the work if the Society gave them annual grants, but it did not do that. As to the question of prosecutions, he pointed out that the County Councils had increased powers of testing manures and feeding-stuffs, and they should put the law in motion. They had powers to take samples whether the buyers wished it or not, and he hoped they would exercise these powers. It was a most important matter that they should do so, not only for the sake of putting down general adulteration, but for giving fair-play to honest traders.

The **Chairman** pointed out that the members of the Society had the privilege of having samples analysed by the chemist. With regard to the experiments, he did not think Mr Prentice would wish them to discontinue the one they were engaged in till they had carried it out to the end. Then there were matters which might crop up in the future. But he was sure that the institution of any new experiment would be carefully considered in the light of what Mr Prentice had said, because the Directors fully recognised the justice of his remarks.

Forestry.

Sir **Archd. Buchan Hepburn** moved that the annual grant of £50 to the Lectureship on Forestry in the University of Edinburgh be continued for the current year. He reported that the next examination for the Society's certificate in forestry would take place in the Society's Chambers on Tuesday, Wednesday, and Thursday, the 9th, 10th, and 11th of April, entries closing on 8th March.

Sir R. **Moncreiffe** seconded, and the motion was agreed to.

Education.

Rev. Dr **Gillespie** reported on the results of the examinations held in England and Scotland last autumn for the National Diploma in Dairying. At the examination in England there were 32 candidates, of whom 19 obtained the diploma; at the Scotch examination 22 candidates, of whom 14 got the diploma. The names of these successful candidates, as well as of those who obtained the National Diploma at Leeds in May last, will be published in the next volume of the Society's 'Transactions.' He moved that the annual grant of £100 to Kilmarnock Dairy School be continued for the current year.

Mr **Cross** seconded, and the motion was agreed to.

Publications.

Rev. Dr **Gillespie** reported that the Publications Committee had completed arrangements for the volume of 'Transactions' to be published in the approaching spring.

Lord **Tullibardine** moved a vote of thanks to the Chairman, after which the proceedings terminated.

APPENDIX A

PREMIUMS

OFFERED BY

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND IN 1907

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GENERAL NOTICE.

THE HIGHLAND SOCIETY was instituted in the year 1784, and incorporated by Royal Charter in 1787. Its operation was at first limited to matters connected with the improvement of the Highlands of Scotland; but the supervision of certain departments, proper to that part of the country, having been subsequently committed to special Boards of Management, several of the earlier objects contemplated by the Society were abandoned, while the progress of agriculture led to the adoption of others of a more general character. The exertions of the Society were thus early extended to the whole of Scotland, and have since been continuously directed to the promotion of the science and practice of agriculture in all its branches.

In accordance with this more enlarged sphere of action, the original title of the Society was altered, under a Royal Charter, in 1834, to THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

Among the more important measures which have been effected by the Society are—

1. Agricultural Meetings and General Shows of Stock, Implements, &c., held in the principal towns of Scotland, at which exhibitors from all parts of the United Kingdom are allowed to compete.
2. A system of District Shows instituted for the purpose of improving the breeds of Stock most suitable for different parts of the country, and of aiding and directing the efforts of Local Agricultural Associations.
3. The encouragement of Agricultural Education, under powers conferred by a supplementary Royal Charter, granted in 1856, and authorising the Society to grant Diplomas to Students of Agriculture; and by giving grants in aid of education in Agriculture and allied sciences. In 1900 the Society discontinued its own Examination, and instituted jointly with the Royal Agricultural Society of England an Examination for a National Diploma in Agriculture.
4. The advancement of the Veterinary Art. by conferring Certificates on Students who have passed through a prescribed curriculum, and who are found, by public examination, qualified to practise. Terminated in 1881 in accordance with arrangements with the Royal College of Veterinary Surgeons.
5. The institution of a National Examination in Dairying, jointly with the Royal Agricultural Society of England.
6. The institution of an Examination in Forestry for First and Second Class Certificates.
7. The appointment of a chemist for the purpose of promoting the application of science to agriculture.
8. The establishment of a Botanical Department.
9. The appointment of Entomologist to advise members regarding insect pests.
10. The annual publication of the 'Transactions,' comprehending papers by selected writers, Prize Reports, and reports of experiments, also an abstract of the business at Board and General Meetings, and other communications.
11. The management of a fund left by John, 5th Duke of Argyll (the original President of the Society), to assist young natives of the Highlands who enter His Majesty's Navy.

CONSTITUTION AND MANAGEMENT.

The general business of THE HIGHLAND AND AGRICULTURAL SOCIETY is conducted under the sanction and control of the Royal Charters, referred to above, which authorise the enactment of Bye-Laws.

The Office-Bearers consist of a President, Four Vice-Presidents, Thirty-two Ordinary and Twenty Extraordinary Directors, a Treasurer, an Honorary and an Acting Secretary, an Auditor, and other Officers.

The Supplementary Charter of 1856 provides for the appointment of a Council on Education, consisting of Sixteen Members — Nine nominated by the Charter and Seven elected by the Society.

PRIVILEGES OF MEMBERS

MEMBERS OF THE SOCIETY ARE ENTITLED—

1. *To receive a free copy of the 'Transactions' annually.*
2. *To apply for District Premiums that may be offered.*
3. *To report Ploughing Matches for Medals that may be offered.*
4. *To Free Admission to the Shows of the Society.*
5. *To exhibit Live Stock and Implements at reduced rates.*[1]
6. *To have Manures and Feeding-Stuffs analysed at reduced fees.*
7. *To have Seeds tested at reduced fees.*
8. *To have Insect Pests and Diseases affecting Farm Crops inquired into.*
9. *To attend and vote at General Meetings of the Society.*
10. *To vote for the Election of Directors, &c., &c.*

ANALYSIS OF MANURES AND FEEDING-STUFFS

For list of the Fees of the Society's Chemist for Analyses made for Members of the Society, see Chemical Department.

The Society's Chemist, if requested, also supplies valuations of manures, according to the Society's scale of units.

SEEDS, CROP DISEASES, INSECT PESTS, &c.

For list of the fees for the examination of plants and seeds, crop diseases, insect pests, &c., see Botanical and Entomological Departments.

ELECTION OF MEMBERS

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June. It is not necessary that the proposer should attend the Meeting.

CONDITIONS OF MEMBERSHIP

Higher Subscription.—The ordinary annual subscription is £1, 3s. 6d., and the ordinary subscription for life-membership is £12, 12s.; or after ten annual payments have been made, £7, 7s.

Lower Subscription.—Proprietors farming the whole of their own lands, whose rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £7, 7s., and that after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s.[2] Subscriptions are payable on election, and afterwards annually in January.

According to the Charter, a Member who shall not have objected to his election, on the same being intimated to him by the Secretary, cannot retire until he has paid, in annual subscriptions or otherwise, an amount equivalent to a life composition.

Members are requested to send to the Secretary the names and addresses of Candidates they have to propose (stating whether the Candidates should be on the £1, 3s. 6d. or 10s. list).

JAMES MACDONALD, *Secretary.*

3 GEORGE IV. BRIDGE, EDINBURGH.

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[1] Firms are not admitted as Members; but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

[2] Candidates claiming to be on the 10s. list must state under which of the above designations they are entitled to be placed on it.

ESTABLISHMENT FOR 1906-1907

President.

The DUKE OF BUCCLEUCH and QUEENSBERRY, K.G., K.T., Dalkeith House, Dalkeith.

Vice-Presidents.

The Marquis of Linlithgow, K.T., Hopetoun House, South Queensferry.
The Earl of Rosebery, K.G., Dalmeny Park, Edinburgh.
The Earl of Wemyss and March, Gosford House, Longniddry.
John Wilson, Chapelhill, Lauder Road, Edinburgh.

Ordinary Directors.

Year of Election.	
1903	Charles Howatson of Glenbuck, Glenbuck, N.B.
	Sir Robert D. Moncreiffe of Moncreiffe, Bart., Bridge of Earn.
	John Murray, Munnieston, Kippen Station, Stirling.
	Sir Archibald Buchan Hepburn of Smeaton, Bart., Prestonkirk.
	John Marr, Upper Mill, Tarves.
	Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O.
	Jonathan Middleton, Glastullich, Nigg, Ross-shire.
	C. H. Scott Plummer of Sunderland Hall, Selkirk.
1904	John M'Hutchen Dobbie, Campend, Dalkeith.
	William Taylor, Park Mains, Renfrew.
	W. S. Ferguson, Pictstonhill, Perth.
	David Wilson, D.Sc., of Carbeth, Killearn.
	Thomas Gordon Duff of Drummuir, Keith.
	Colonel Robert F. Dudgeon of Cargen, Dumfries.
	John Macpherson-Grant, Old Milton, Kingussie.
	H. M. Leadbetter, Legerwood, Earlston.
1905	Captain Thomas Hope of Bridge Castle, Westfield, Linlithgowshire.
	Alexander Cross of Knockdon, 19 Hope Street, Glasgow
	A. H. Anderson, Kippendavie Estate Office, Dunblane.
	Marquis of Tullibardine, M.V.O., D.S.O., Blair Castle, Blair Atholl.
	Athole S. Hay of Marlefield, Roxburgh.
	John M'Caig, Challoch, Leswalt, Stranraer.
	William Duthie, Tarves, Aberdeenshire.
	C. M. Cameron, Balnakyle, Munlochy.
1906	James Stenhouse, Turnhouse, Cramond Bridge.
	W. S. Park, Hatton, Bishopton.
	J. Ernest Kerr, Harviestoun Castle, Dollar.
	Major F. J. Carruthers of Dormont, Lockerbie.
	David Ferrie, Parbroath, Cupar-Fife.
	E. Douglas Paton, Broomhill, Melrose.
	Chas. E. N. Leith Hay of Leith Hall, Kennethmont.
	J. Douglas Fletcher of Rosehaugh, Avoch, R.S.O., Ross-shire.

Extraordinary Directors.

1906	The Right Hon. James P. Gibson, Lord Provost of Edinburgh.
	Sir William Dick Cunyngham of Prestonfield, Bart., 18 Hobart Place, Grosvenor Gardens, London, S.W.
	Colonel Robert Dundas, yr. of Arniston, Kirkhill, Gorebridge.
	H. T. N. Hamilton Ogilvy of Biel, Winton Castle, Pencaitland.
	Alexander Guild, W.S , 5 Rutland Square, Edinburgh.
	A. Agnew Ralston, Philpstoun House, Philpstoun, West Lothian.
	George Pendreigh, Dalhousie, Bonnyrigg.
	Harry Hope, Barneyhill, Dunbar.
	James S. Dickson, Damhead, Loanhead.
	E. Hedley Smith, B.L., Whittinghame, Prestonkirk.
1904	F. W. Christie, Dairsie Mains, Dairsie, R.S.O.
	Andrew Ralston, Glamis.
	John M. Aitken, Norwood, Lockerbie.
	James I. Davidson, Saughton Mains, Corstorphine.
1905	John Cran, Kirkton, Bunchrew, Inverness.
	William T. Malcolm, Dunmore, Larbert.
	Captain G. D. Clayhills Henderson of Invergowrie, R.N., Dundee.
1906	R. Shirra Gibb, Boon, Lauder.
	Andrew Hutcheson, Beechwood, Perth.
	John Speir, Newton Farm, Newton, Glasgow.

Office-Bearers.

Sir James H. Gibson-Craig of Riccarton, Bart., *Treasurer.*
Alexander M. Gordon of Newton, Insch, *Honorary Secretary.*
James Macdonald, F.R.S.E., *Secretary.*
Rev. Archibald Scott, D.D., *Chaplain.*
James Hendrick, B.Sc., F.I.C., Agricultural Department, Marischal College, Aberdeen, *Chemist.*
Professor R. Stanfield, A.R.S.M., M.Inst. C.E., F.R.S.E., 34 George Square, Edinburgh, *Consulting Engineer.*
A. N. M'Alpine, 6 Blythswood Square, Glasgow, *Consulting Botanist.*
R. S. MacDougall, M.A., D.Sc., 13 Archibald Place, *Consulting Entomologist.*
William Home Cook, C.A., 42 Castle Street, *Auditor.*
Tods, Murray, & Jamieson, W.S., *Law Agents.*
John Macdiarmid, *Clerk.*
Edward M. Cowie, *Second Clerk.*
William Blackwood & Sons, 45 George Street, *Printers and Publishers.*
Keith & Co., 43 George Street, *Advertising Agents.*
G. Waterston & Sons, 35 George Street, *Stationers.*
Thomas Smith & Sons, 47 George Street, *Silversmiths.*
Alexander Kirkwood & Son, 9 St James' Square, *Medallists.*
John Watherston & Sons, *Inspectors of Works.*
D. Macandrew & Co., 120 Loch Street, Aberdeen, *Showyard Contractors.*
William Simpson, *Messenger.*

Chairman of Board of Directors.

David Wilson, D.Sc., of Carbeth.

Chairmen of Committees.

1. *Argyll Naval Fund* . .	Captain G. D. Clayhills Henderson.
2. *Finance, Chambers, and Law*	Sir James H. Gibson-Craig, Bart.
3. *Publications*	Very Rev. John Gillespie, LL.D.
4. *Shows*	Alex. M. Gordon of Newton.
5. *Science*	David Wilson, D.Sc., of Carbeth
6. *General Purposes* . .	Sir James H. Gibson-Craig, Bart.
7. *Education*	Very Rev. John Gillespie, LL.D.
8. *Forestry*	Sir Archibald Buchan Hepburn, Bart.

COMMITTEES FOR 1906-1907

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1. ARGYLL NAVAL FUND.

Capt. G. D. Clayhills Henderson of Invergowrie, R.N., Dundee, *Convener.*
J. Patten MacDougall, C.B., 39 Heriot Row, Edinburgh.
John Maclachlan of Maclachlan, 48 Castle Street, Edinburgh.
Sir John Gilmour of Montrave, Bart., Leven.
Sir Kenneth Mackenzie of Gairloch, Bart., 10 Moray Place, Edinburgh.

2. FINANCE, CHAMBERS, AND LAW.

Sir James H. Gibson-Craig of Riccarton, Bart., *Convener.*
Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O.
Alexander Cross of Knockdon, 19 Hope Street, Glasgow.
John M'Hutchen Dobbie, Campend, Dalkeith.
W. S. Ferguson, Pictstonhill, Perth.
Jas. I. Davidson, Saughton Mains, Corstorphine.
David Wilson, D.Sc., of Carbeth, Killearn.
Sir Archibald Buchan Hepburn of Smeaton, Bart., Prestonkirk.
James Stenhouse, Turnhouse, Cramond Bridge.
A. M. Gordon of Newton, Insch, Aberdeenshire, Hon. Secretary, *ex officio.*
William Home Cook, C.A., Auditor, *ex officio.*

3. PUBLICATIONS.

Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O., *Convener.*
John Speir, Newton Farm, Newton, Glasgow.
David Wilson, D.Sc., of Carbeth, Killearn.
R. Shirra Gibb, Boon, Lauder.
Sir Robert D. Moncreiffe of Moncreiffe, Bart., Bridge of Earn.
John M'Hutchen Dobbie, Campend, Dalkeith.
John Wilson, Chapelhill, Lauder Road, Edinburgh.

4. SHOWS.

Alex. M. Gordon of Newton, Insch, Aberdeenshire, *Convener.*
Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O. *Vice-Convener.*
Sir James H. Gibson-Craig of Riccarton, Bart., Currie.
John Cran, Kirkton, Bunchrew, Inverness.
John Marr, Upper Mill, Tarves.
Jonathan Middleton, Glastullich, Nigg, Ross-shire.
W. S. Ferguson, Pictstonhill, Perth.
Alex. Cross of Knockdon, 19 Hope Street, Glasgow.
J. D. Fletcher of Rosehaugh, Avoch, R.S.O., Ross-shire.
C. M. Cameron, Balnakyle, Munlochy.

JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
WILLIAM DUTHIE, Tarves, Aberdeenshire.
ROBERT F. DUDGEON of Cargen, Dumfries.
JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
JOHN M'CAIG, Challoch, Leswalt.
Sir ROBERT D. MONCREIFFE of Moncreiffe, Bart., Bridge of Earn.
JOHN MURRAY, Munnieston, Kippen Station, Stirling.
WILLIAM TAYLOR, Park Mains, Renfrew.
F. W. CHRISTIE, Dairsie Mains, Dairsie, R.S.O.
A. H. ANDERSON, Kippendavie, Dunblane.
CHARLES HOWATSON of Glenbuck, Glenbuck, N.B.
JAMES STENHOUSE, Turnhouse, Cramond Bridge.
E. DOUGLAS PATON, Broomhill, Melrose.
J. ERNEST KERR, Harviestoun Castle, Dollar.
THOMAS GORDON DUFF of Drummuir, Keith.
JOHN MACPHERSON-GRANT, yr. of Ballindalloch, Old Milton, Kingussie.
W. T. MALCOLM, Dunmore, Larbert.
The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.
DAVID FERRIE, Parbroath, Cupar-Fife.
Major F. J. CARRUTHERS of Dormont, Lockerbie.
W. S. PARK, Hatton, Bishopton.
Captain THOMAS HOPE of Bridge Castle, Westfield.

5. SCIENCE.

DAVID WILSON, D.Sc., of Carbeth, Killearn, *Convener*.
JONATHAN MIDDLETON, Glastullich, Nigg, Ross-shire, *Vice-Convener*.
R. SHIRRA GIBB, Boon, Lauder.
W. S. FERGUSON, Pictstonhill, Perth.
JOHN SPEIR, Newton Farm, Newton, Glasgow.
ANDREW HUTCHESON, Beechwood, Perth.
ALEX. CROSS of Knockdon, 19 Hope Street, Glasgow.
Very Rev. JOHN GILLESPIE, LL D , Mouswald Manse, Ruthwell, R.S.O.
JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
JOHN M'CAIG, Challoch, Leswalt.
C. H. SCOTT PLUMMER of Sunderland Hall, Selkirk.
JAMES STENHOUSE, Turnhouse, Cramond Bridge.
THOMAS GORDON DUFF of Drummuir, Keith.
J. M. AITKEN, Norwood, Lockerbie.
Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk.
The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.
HARRY HOPE Barneyhill, Dunbar.
DAVID FERRIE. PARBROATH, Cupar-Fife.
JAMES HENDRICK, Chemist, *ex officio*.
A. N. M'ALPINE, Botanist, *ex officio*.

6. GENERAL PURPOSES.

Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., Currie, *Convener*.
G. R. GLENDINNING, Hatton Mains, Kirknewton.
Very Rev. JOHN GILLESPIE, LL.D , Mouswald Manse, Ruthwell, R.S.O.
JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk.
JOHN WILSON, Chapelhill, Lauder Road, Edinburgh.
ALEX. M. GORDON of Newton, Insch, *ex officio*.
JAMES I DAVIDSON, Saughton Mains, Corstorphine.
ANDREW HUTCHESON, Beechwood, Perth.
DAVID WILSON, D.Sc., of Carbeth, *ex officio*.

7. EDUCATION.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O., *Convener*.
DAVID WILSON, D.Sc., of Carbeth, Killearn.
ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow.
JOHN SPEIR, Newton Farm, Newton, Glasgow.
R. SHIRRA GIBB, Boon, Lauder.
The SECRETARY.

8. FORESTRY.

Sir ARCHIBALD BUCHAN HEPBURN of Smeaton, Bart., Prestonkirk, *Convener*.
The MASTER OF POLWARTH, Humbie House, Upper Keith.
A. M. GORDON of Newton, Insch, Aberdeenshire.
R. C. MUNRO FERGUSON of Raith, M.P., Kirkcaldy.
JOHN METHVEN, 15 Princes Street, Edinburgh.
Colonel F. BAILEY, 7 Drummond Place, Edinburgh.
DAVID KEIR, Ladywell, Dunkeld.
JOHN MICHIE, Balmoral, Ballater.
THOMAS GORDON DUFF of Drummuir, Keith.
The MARQUIS OF TULLIBARDINE, M.V.O., D.S.O., Blair Castle.

9. OFFICE-BEARERS.

ALEX. M. GORDON of Newton, Insch, Aberdeenshire.
Captain THOMAS HOPE of Bridge Castle, Westfield.
Sir JAMES H. GIBSON-CRAIG of Riccarton, Bart., Currie.
E. DOUGLAS PATON, Broomhill, Melrose.
DAVID WILSON, D.Sc., of Carbeth, Killearn.
ALEXANDER CROSS of Knockdon, 19 Hope Street, Glasgow.
Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell.
W. S. FERGUSON, Pictstonhill, Perth.
C. M. CAMERON, Balnakyle, Munlochy.
JOHN M'HUTCHEN DOBBIE, Campend, Dalkeith.
WILLIAM DUTHIE, Tarves.
JAMES STENHOUSE, Turnhouse, Cramond Bridge.
W. M. LEADBETTER, Legerwood, Earlston.
A. H. ANDERSON, Kippendavie, Dunblane.
JOHN M'CAIG, Challoch, Leswalt, Stranraer.

The President, Vice-Presidents, the Treasurer, Honorary Secretary, and Chairman of Directors are members *ex officiis* of all Committees.

REPRESENTATIVES ON OTHER BODIES.

National Agricultural Examination Board.

Very Rev. JOHN GILLESPIE, LL.D., Mouswald Manse, Ruthwell, R.S.O.
ALEX. CROSS of Knockdon, 19 Hope Street, Glasgow.
JOHN SPEIR, Newton Farm, Newton, Glasgow.
DAVID WILSON, D.Sc., of Carbeth, Killearn.
R. SHIRRA GIBB, Boon, Lauder.
JAMES MACDONALD, *Secretary*.

West of Scotland Agricultural College.

Very Rev. John Gillespie, LL.D., Mouswald Manse, Ruthwell, R.S.O.
John M. Martin, Murieston House, Mid-Calder.

Edinburgh and East of Scotland College of Agriculture.

R. Shirra Gibb, Boon, Lauder.
James Macdonald, *Secretary.*

Aberdeen and North of Scotland College of Agriculture.

T. Gordon Duff of Drummuir, Keith.
William Duthie, Tarves.

Royal (Dick) Veterinary College.

John M. Maltin, Murieston House, Midcalder.

MEETINGS.

General Meetings.—By the Charter the Society must hold two General Meetings each year, and, under ordinary circumstances, they are held in the months of January and June, in the Society's Hall, 3 George IV. Bridge, for the election of Members and other business. Twenty a quorum.

By a resolution of the General Meeting on 15th January 1879, a General Meeting of Members is held in the Showyard on the occasion of the Annual Show. This year it will be held at Edinburgh, on Tuesday, 9th July, at an hour to be announced in the programme of the Show.

With reference to motions at General Meetings, Bye-Law No. 10 provides—"That at General Meetings of the Society no motion or proposal (except of mere form or courtesy) shall be submitted or entertained for immediate decision unless notice thereof has been given a week previously to the Board of Directors, without prejudice, however, to the competency of making such motion or proposal to the effect of its being remitted to the Directors for consideration, and thereafter being disposed of at a future General Meeting."

General Show at Edinburgh—9th, 10th, 11th, and 12th July.—Entries close for Implements, 6th May; Stock, Poultry, and Dairy Produce, 31st May.

Directors' Meetings.—The Board of Directors meet (except when otherwise arranged) on the first Wednesday of each month from November till June inclusive, at half-past one o'clock P.M., and occasionally as business may require, on a requisition by three Directors to the Secretary, or on intimation by him. Seven a quorum.

Committee Meetings.—Meetings of the various Committees are held as required.

Nomination of Directors.—Meetings of Members, for the purpose of nominating Directors to represent the Show Districts on the Board for the year 1908-1909, will be held at the places and on the days after mentioned :—

Year 1908–1909.

1. Edinburgh, 3 George IV. Bridge, .	Wed., 12th Feb. 1908, at 2.
2. Glasgow, North British Railway Hotel	Wed., 19th Feb. 1908, at 1.
3. Stirling, Golden Lion Hotel, . . .	Thur., 20th Feb. 1908, at 1.30.
4. Perth, Salutation Hotel, . . .	Fri., 21st Feb. 1908, at 2.
5. Kelso, Cross Keys Hotel, . . .	Fri., 28th Feb. 1908, at 12.30.
6. Aberdeen, Imperial Hotel, . . .	Fri., 6th Mar. 1908, at 2.
7. Inverness, Station Hotel, . . .	Tues., 10th Mar. 1908, at 12.30.
8. Dumfries, King's Arms Hotel, . .	Wed., 18th Mar. 1908, at 1.

The nomination of Tenant-Farmers or other Members paying the lower subscription must be made in the 1st, 2nd, 4th, and 5th Districts; and the nomination of Proprietor or other Members paying the higher subscription, in the 3rd, 6th, 7th, and 8th Districts.

EXAMINATIONS.

Agriculture.—The Examination for 1907 for the National Diploma in Agriculture will be held at the University, Leeds, on Monday, 6th May, and following days. Entries close on 2nd April.

Forestry.—The Examination for the Society's Certificates in Forestry will be held at 3 George IV. Bridge, Edinburgh, on 9th, 10th, and 11th April 1907. Entries close on 8th March.

Dairy.—The Examination for 1907 for the National Diploma in Dairying will be held at the Dairy School, Kilmarnock, on Monday, 30th September, and following days. Entries close on 31st August.

AGRICULTURAL EDUCATION

By a Supplementary Charter under the Great Seal, granted in 1856, the Society is empowered to grant Diplomas.

From 1858 to 1899 the Society held an annual Examination for Certificate and Diploma in Agriculture. In 1872 the Free Life Membership of the Society was granted to winners of the Diploma. In 1884 permission was given to holders of the Diploma to append the letters F.H.A.S. to their names.

In 1898 it was resolved by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland to discontinue the independent Examinations in Agriculture held by the two Societies, and to institute in their stead a Joint-Examination for a NATIONAL DIPLOMA IN AGRICULTURE (N.D.A.) This Examination is now conducted under the management of the "National Agricultural Examination Board" appointed by the two Societies. In the year 1903, on the invitation of the two Societies, the Board of Agriculture and the Scotch Education Department agreed to appoint a representative from each to act on the Examination Board. Professor Middleton represents the former and Mr John Struthers, C.B., the latter body.

REGULATIONS AND SYLLABUS OF THE EXAMINATION FOR THE NATIONAL DIPLOMA IN THE SCIENCE AND PRACTICE OF AGRICULTURE.

REGULATIONS.

1. The Societies may hold conjointly, under the management of the National Agricultural Examination Board appointed by them, an annual Examination in the Science and Practice of Agriculture, at a convenient centre.

2. Candidates who pass the Examination will receive the National Diploma in Agriculture—the Diploma to be distinguished shortly by the letters "N D.A."

3. The Examination will be conducted by means of written papers and oral Examinations.

4. The Examination must be taken in Two Parts as follows :—

First Part.

1. Agricultural Botany.
2. Mensuration and Land Surveying (*or Agricultural Book-keeping*).
3. General Chemistry.
4. Geology.
5. Agricultural Zoology.

Second Part.

6. Practical Agriculture.
7. Agricultural Book-keeping (*or Mensuration and Land Surveying*).
8. Agricultural Chemistry.
9. Agricultural Engineering.
10. Veterinary Science.

Candidates have the option of taking Mensuration and Land Surveying in the First Part and Agricultural Book-keeping in the Second Part, or of taking Agricultural Book-keeping in the First Part and Mensuration and Land Surveying in the Second Part. The choice must be declared on the Entry Form at the time of Entry for the First Part.

5. The maximum number of marks obtainable and the minimum number of marks in each subject qualifying for the Diploma will be as follows :—

SUBJECT.	Max. No. of Marks.	Pass Marks for Diploma.
First Part—		
1. Agricultural Botany	200	120
2. Mensuration and Land Surveying	200	120
3. General Chemistry	200	120
4. Geology	100	50
5. Agricultural Zoology	100	50
Second Part—		
6. Practical Agriculture	500	300
7. Agricultural Book-keeping	200	120
8. Agricultural Chemistry	200	120
9. Agricultural Engineering	200	120
10. Veterinary Science	100	50

6. A Candidate who obtains not less than three-fourths (1500) of the aggregate maximum marks (2000) in the entire Examination will receive the Diploma with Honours, provided that he obtains not less than three-fourths (375) of the maximum marks (500) in the subject of Practical Agriculture.

7. A Candidate will not be entitled to take both Parts of the Examination at one time. A year at least must elapse between the passing of the First Part and sitting for the Second Part; and the Second Part must, except with the special permission of the Board, be taken within two years of the passing of the First Part.

8. A non-returnable fee of £1 will be required from each Candidate for each Part of the Examination.

9. A Candidate who fails to obtain Pass marks in any of the subjects in Part I. must take the entire Part again. A Candidate who fails to obtain Pass marks in more than one of the subjects in Part II. must take the entire Part again. A Candidate who fails in one subject only in Part II. may come up again for that subject alone.

10. Holders of the First Class Certificate of the Royal Agricultural Society of England and of the Diploma of the Highland and Agricultural Society of Scotland will not be eligible for this Examination.

11. The Board reserve the right to postpone, abandon, or in any way, or at any time, modify an Examination, and also to decline at any stage to admit any particular Candidate to the Examination.

The Eighth Examination for the National Diploma in Agriculture will take place in the Great Hall of the Leeds University, on Monday, May 6, 1907, and following days. Forms of application for permission to sit at the Examination may be obtained in due course from the Secretary, Royal Agricultural Society of England, 16 Bedford Square, London, W.C., or from the Secretary, Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh, and must be returned duly filled up not later than Tuesday, April 2, 1907, when the Entries will close.

By Order,

ERNEST H. GODFREY,
Secretary to the Board.

December 1906.

SYLLABUS OF SUBJECTS OF EXAMINATION.

FIRST PART.

I.—AGRICULTURAL BOTANY.

1. *Morphology.*—The structure of plants. The principles of classification. The Natural Orders (Phanerogams and Cryptogams), dealing specially with those of importance to the Agriculturist.

2. *Physiology.*—The life of the plant. Organs and their functions—nutritive and reproductive.

3. *Pathology.*—Diseases of plants, and their causes. Parasites—Phanerogams, Fungi, Bacteria. Prevention and cure.

4. *Cultivation.*—Conditions in plant life favourable to (*a*) the improvements of cultivated plants, and (*b*) the destruction of weeds. New varieties of plants. Pastures. Pruning.

N.B.—*Candidates will be expected to give evidence of practical acquaintance with the subject. They will be required to identify and briefly describe the commoner fungi, plants usually met with on a farm, the chief farm seeds, and sections illustrative of the main structural features of flowering plants.*

II.—MENSURATION AND LAND SURVEYING.

1. Ordinary rules of superficial and solid mensuration. Volume of a prismoid. Applications to practical questions. Estimation of weights of bodies whose dimensions and specific gravity are known.

2. Land surveying by chain. Plotting from field-book, and determination of areas surveyed. The simpler "field problems."

3. The use and adjustment of instruments employed in Surveying and Levelling.

4. Levelling and plotting from field-book.

5. A sufficient knowledge of Trigonometrical Surveying for the determination of heights and distances by Theodolite; as essential to this, solution of plane triangles by the aid of Logarithmic Tables.

6. A knowledge of the various classes of maps published by the Ordnance Survey Department and their Scales.

N.B.—*Each candidate should have with him at the Examination a pair of compasses, scales of equal parts, including a scale of one chain to an inch, and the scale fitting the Ordnance map,* $\frac{1}{2500}$, *or* 25·344 *inches to the mile, a small protractor, a set square, and a straight-edge about* 18 *inches in length.*

III.—GENERAL CHEMISTRY.

Chemical Physics.

Matter and Energy—Pure and mixed matter—Methods of separating Mixtures—Simple and Compound substances—Kinetic and Potential energy—Transformation and Conservation of Energy.

The solid, liquid, and gaseous states of matter and the phenomena accompanying change of state.

Heat—the measurement of Heat—thermometers—calorimeter—the effects of Heat and pressure on Gases.

Gaseous diffusion—vapour tension—the barometer.

Mass and Weight—the balance—Specific Gravity—Density—Hydrometry.

Metric system of weights and measures.

Inorganic Chemistry.

The chief elements found in the commonest forms of matter.

The atomic theory—molecular condition of matter—atomic and molecular weights.

Chemical combination—symbolic notation—equations.

Hydrogen—its compounds with chlorine, oxygen, nitrogen, and carbon.

Oxygen—oxidation—combustion—respiration.

Water—natural waters—their impurities and purification.

Acids—bases—salts.

Carbon—its compounds with oxygen, sulphur, and nitrogen.

Nitrogen—nitric acid—nitrates—and nitrites.

Sulphur—sulphides—sulphuric and sulphurous acids—sulphates.

Chlorine—Bromine—Iodine.

Chlorides—Chlorates—chloride of lime, bleaching.

Phosphorus—phosphates—superphosphate.

Silica—silicates—arsenic.

Metals—ores—general metallurgic processes.

Alkalies—Chief Alkaline salts—Alkalimetry—Acidimetry.

Lime—the chief Lime compounds.

Magnesium, Zinc, Iron, Lead, Copper, Mercury, Silver, and their technically important Salts.

Organic Chemistry.

Distillation of Coal and Wood—Nature of chief products.

Hydrocarbons—Paraffins—Olefines and their chief oxidation products—Alcohols, Aldehydes, Acids.

Fermentations—Alcoholic, acetic, lactic, butyric.

Carbohydrates—sugars, starch, cellulose, dextrine, gums.

Fats—glycerol—saponification.

Benzene—Phenol.

Tartaric, Citric, and other common vegetable acids.

Amines and Amides—urea.

Proteids, Peptones, Gelatine, &c.

N.B.—*In this section exact knowledge of general principles and typical compounds is expected, rather than diffuse information. Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.*

IV.—GEOLOGY.

1. Chief minerals entering into the composition of rocks. Origin and composition of aqueous and igneous rocks. General principles of the classification of rocks. Leading divisions of the stratified rocks, and their geographical distribution in the British Islands.

2. Stratification, cleavage, and faulting of rocks.

3. Influence of the geological structure of a country on the configuration of the land and the composition of the soil. Relation of strata to water-supply and drainage. Origin of springs.

4. The various mineral manures, their sources, characters, and mode of occurrence.

5. Different kinds of building-stones and road materials. Distribution of the various economical substances.

N.B.—*Candidates will be required to name and describe common rocks, minerals, and fossils, and to show some knowledge of geological maps and sections.*

V.—AGRICULTURAL ZOOLOGY.[1]

1. The part played by common animals in helping or hindering agricultural operations, as illustrated by moles and voles, insectivorous and other birds, snails and slugs, useful and injurious insects, arachnids and myriopods, earthworms, &c.

2. *General Structure of Insects*, especially the external characters.

3. *Life-history of Insects.*—Various forms of larvæ. Economic importance of different stages.

4. *Classification of Insects.*—The general characters of the following Natural Orders: Coleoptera, Lepidoptera, Hymenoptera, Diptera, Hemiptera, Orthoptera, Neuroptera.

5. *Acarina* injurious to Food Crops and Live Stock.

6. *Parasitic Worms.*—Flukes, Tapeworms, and Threadworms.

7. *Preventive and Remedial measures* in regard to insects, acarines, and worm Parasites—*e.g.*, farm practice in relation to the discouragement of Insect Attack. Encouragement of insect-eating birds and mammals. Artificial remedies. Insecticides. Treatment for Parasites.

N.B.—*Practical acquaintance with common animals, especially insects and worm parasites, will be expected. Where the Candidate is not acquainted with the scientific name of an animal, the generally received English name will be accepted.*

SECOND PART.

VI.—PRACTICAL AGRICULTURE.

1. *Soils.*—Classification of soils—characters and composition—suitability for cultivation.

2. *Improvement of Soil.*—Drainage, Irrigation, and Warping. The application of lime—marl—clay—ashes, &c.

3. *Rotations.*—The principles of rotations—rotations suitable for different soils and climates—systems of farming.

4. *Manures.*—The properties of manures—general and special—amounts used per acre—period and mode of application—treatment and disposal of sewage.

5. *Food-stuffs.*—The properties of feeding substances—their suitability

for different classes of farm stock—considerations affecting their use—rations for different classes of stock.

6. *Crops.*—Farm crops (cereals, agricultural grasses and clovers, forage plants and roots). How they grow—their cultivation, including cleaning, harvesting, and storage—diseases—insect injuries and remedies.

7. *Weeds and Parasitic Plants.*—Best methods of eradication.

8. *Pests of the Farm.*—Injuries to crops and live stock of the farm due to mammals, birds, and insects, with their prevention and remedies.

9. *Weather.*—Meteorology, or the effect of climate on farming conditions.

10. *Live Stock.*—The breeding, rearing, feeding, and general treatment of farm stock—the different breeds of horses, cattle, sheep, pigs, and poultry—their characteristics—the districts where they are generally met with.

11. *Milk.*—The production and treatment of milk—the manufacture of cheese, butter, &c.—the utilisation of bye-products.

12. *Machinery.*—The uses and prices of the machines and implements used in farming in different parts of Great Britain.

13. *Buildings.*—Buildings required on different classes of farms in various districts.

14. *Farming Capital.*—Calculations of the cost of stocking and working arable, stock, and dairy farms. Farm valuations. Rent, taxes, and cost of labour.

N.B.—*It is essential that a Candidate know his subject practically, and that he satisfy the Examiner of his familiarity with farm routine. Candidates will be expected to illustrate their answers when necessary by intelligible sketches or diagrams.*

VII.—AGRICULTURAL BOOK-KEEPING.

1. Agricultural Book-keeping—Description of books to be kept, with examples.

2. Valuation of stock and effects.

3. Profit and Loss, and Balance-Sheet.

VIII.—AGRICULTURAL CHEMISTRY.

1. *Soil.*—The origin, formation, and classification of soils. The constituents of soils. The supply of plant-food by the soil. The chemical and physical properties of soils of different kinds. The adaptation of soils to particular crops. The relations of air and water to soils. Nitrification and the biology of the soil. The chemical and physical effects of tillage operations and drainage. The improvement of soils. Causes of infertility. Mechanical and chemical analysis of soils

2. *Plant-life.*—The constituents of plants. The relations of atmosphere rainfall, heat, and light to vegetation. The sources of plant-food.

3. *Manures.*—The supply of plant-food by manure. The improvement of the soil by manuring. The classification of manures as regards their composition, nature, and use. The manures in general use upon the farm. Farmyard manure and other natural manures. Green-manuring. Liming, marling, claying. Artificial manures, their origin and manufacture. The changes which manures undergo in the soil. The influence of drainage. The application of manures. The analysis of manures. The adulteration of manures.

4. *Crops.*—The composition of the principal farm crops. Characteristics of particular kinds of crops. The influence of climate and season. The manuring of particular crops. The changes that take place in crops during the various stages of their growth. Rotation of crops.

5. *Foods.*—The constituents of foods, and their functions. The nutritive

value and digestibility of foods. The chemical composition and use of the principal feeding-stuffs employed on the farm, and the sources of their supply. The main facts regarding respiration and digestion. The relation of foods to the production of work, meat, milk, and manure. The adaptation of foods to special requirements. The residual manurial value of foods, and the circumstances affecting it. The estimation of unexhausted fertility. Analysis and adulteration of foods.

6. *Water.*—Rain-water. Hard and soft waters. Drinking waters. Irrigation and sewage.

7. *Dairying.*—The composition of milk, and the conditions which influence its quality and supply. Cream and cream-separation. Butter and butter-making. Cheese and cheese-making. The influence of ferments on milk and milk products. The preservation of milk. Milk-testing.

N.B.—*Candidates are required to bring their Laboratory Notes to the Oral Examination in this subject.*

IX.—AGRICULTURAL ENGINEERING.

1. *Heat.*—Specific heat; latent heat; the unit of heat. Total heat of water; as ice, water, and steam. Conduction, convection, and radiation of heat. Mechanical equivalent of heat. Principle of combustion. Quantity of heat generated by combustion. Modes of transforming heat of combustion into power, as in the steam-engine, and in gas and oil engines.

2. *Air.*—Properties of air; elasticity, density. Barometer. Moisture. Movement. Winds. Windmills.

3. *Water.*—Composition, impurities, weight Height of column to balance atmosphere. Flow of water. Friction of water in pipes and channels. Usual speed of flow. Power derived from falls of water. Water-wheels; turbines; water-pressure engines; pumps. Potable water. Sources of supply. Means of purification. Storage.

4. *Mechanics.*—Centre of gravity; stability of structures. The lever; toothed wheels; pulleys and ropes; wrapping connectors; winches; differential pulleys. Laws of motion. Strength of materials, tensile, compressive, torsional, and transverse; elastic limit; ultimate strength. Horse-power; animal and human power. Friction of surfaces and axles; lubrication.

5. *Steam-engine.*—Construction of an ordinary portable-engine boiler, and of a Cornish boiler, and its setting. Fittings of a boiler. Construction of the stationary and portable steam-engine. Single cylinder. Double cylinder. Compound. Steam and fuel consumed per horse-power.

6. *Gas and Petroleum Engines.*—Principle of action. Sources of loss. Fuel and water required per horse-power.

7. *Electrical Generators, Motors, and Conductors.*—Principles of action. Losses in electrical machinery. Efficiency. Detection of faults. Use of fuses and cut-outs. Horse-power of motors. Ohm's law.

8. *Construction of Agricultural Implements.*—The mode of action and the general principles involved in the construction of farm implements. The adjustments of implements for different descriptions of work. Lubrication. Working or wearing parts.

9. *Cultivating Implements worked by Steam Power.*

10. *Horse-cultivating Implements.*—Ploughs. Cultivators or Grubbers. Harrows. Rollers. Scrubbers, &c.

11. *Sowing Implements.*—Drills. Manure and water drills. Broadcast barrows. Broadcasters. Manure distributors. Potato planters, &c.

12. *Hoeing Implements.*—Horse-hoes. Scufflers.

13. *Securing of Crops.*—Reaping machines. Mowing machines. Haymakers. Horse-rakes. Elevators. Silage appliances. Potato raisers, &c.

14. *Carriages.*—Carts. Waggons. Motor Waggons. Sleighs. Rick-lifters, &c.

15. *Preparing Crops for Market.*—Threshing machines. Winnowing machines. Corn screens. Hummellers. Hay and straw presses, &c.

16. *Preparing Foods.*—Mills. Chaff-cutters. Pulpers. Turnip-cutters. Cake-breakers. Cooking apparatus.

17. *Dairy Appliances.*—Cream separators. Churns. Butter-workers. Cheese tubs. Curd mills. Cheese presses. Setting-pans. Refrigerators, &c.

18. *Land Improvement.*—Drainage instruments. Limekilns. Arrangements of shafting, pulleys, clutches, &c., for farm machinery at homesteads. Building construction and material.

N.B.—*Marks will be given for neatness and accuracy of Drawing.*

X.—VETERINARY SCIENCE.

1. Anatomy and Physiology, including the comparative anatomy of the bones of the animals of the farm, and the structure and functions of the different organs and tissues of the horse, ox, sheep, and pig.

2. The digestive processes and principles of nutrition in the above animals.

3. A general knowledge of the blood and its circulation, and the processes of respiration, secretion, and excretion.

4. The physiology of reproduction, and its bearings on healthy breeding.

5. The period of gestation in the mare, cow, ewe, and sow, and the special management of these animals prior to, at the time of, and after parturition.

6. The management of farm stock in health and disease.

The following won the Diploma in 1906:—

Diploma with Honours.

Ernest Harrison, Harris Institute, Preston (*Gold Medal*)
John Fisher, Harris Institute, Preston.
James Wyllie, Glasgow and West of Scotland Agricultural College.
James Ryding Bond, Harris Institute, Preston.
Thomas Rimmer, Harris Institute, Preston.
Percy Snowdon, Leeds University.

Diploma.

Gwilym Williams, University College of Wales, Aberystwyth.
James Johnston, Glasgow and West of Scotland Agricultural College.
Oliver Cyril Spencer Watson, Harper-Adams Agricultural College, Newport, Salop.
Frank Atkinson Capstick, Harper-Adams Agricultural College, Newport, Salop.
Robert William Staniforth, Harris Institute, Preston.
William Stevenson, Glasgow and West of Scotland Agricultural College.
George Henry Garrard, South-Eastern Agricultural College, Wye, Kent.
Francis Alexander Thomson, Marischal College, Aberdeen.
Francis Strachan Marr, Aberdeen University.
{ George Ramsay Bland, Harris Institute, Preston.
{ Tom Clark, Harper-Adams Agricultural College, Newport, Salop.

Joseph Stoker, Leeds University.
John Frederick Harrison, South-Eastern Agricultural College, Wye, Kent.
Robert Stanley Vinson, South-Eastern Agricultural College, Wye, Kent.
Frederick James Podmore, Harris Institute, Preston.
James Elgey, Leeds University.
Alfred Harold Heath, Harper-Adams Agricultural College, Newport, Salop.
Sydney Rothwell, South-Eastern Agricultural College, Wye, Kent.
William Sugden, Harris Institute, Preston.
John Wilson, Harris Institute, Preston.
Arthur Edgar Bruce Fielding, Leeds University.
Annie Gladys Anyan, Harris Institute, Preston.

Examination Papers of Past Years.

Copies of the Papers set at the six Annual Examinations for the National Diploma in the Science and Practice of Agriculture held from 1900 to 1905 may, as far as available, be had on application. Price 6d. per set.

VETERINARY DEPARTMENT

The Society established a Veterinary Department in 1823, but by an arrangement made with the Royal College of Veterinary Surgeons, the Society's examination ceased in 1881. Holders of the Society's Veterinary Certificate are entitled to become Members of the Royal College of Veterinary Surgeons on payment of certain fees, without being required to undergo any further examination. The number of Students who passed for the Society's Certificate is 1183.

The Society votes annually eleven silver medals for Class Competition to each of the two Veterinary Colleges in Scotland, the one in Edinburgh and the other in Glasgow.

FORESTRY DEPARTMENT

The Society grants First and Second Class Certificates in Forestry.

1. An Examination will be held each year about the month of April.

2. Next Examination will be held on 9th, 10th, and 11th April 1907. Entries close on 8th March.

3. Candidates must possess—1. A thorough acquaintance with the theory and practice of Forestry. 2. A general knowledge of the following branches of study, so far as these apply to Forestry: (*a*) The Elements of Botany and Forest Zoology; (*b*) The Elements of Physics, Chemistry, and Meteorology; (*c*) Forest Engineering, including Land and Timber Measuring and Surveying; Mechanics and Construction, as applied to fencing, draining, bridging, road-making, and saw-mills; and Implements of Forestry; (*d*) Book-keeping and Accounts.

4. The examinations are open to candidates of any age, may be both written and oral, and will include such practical tests as may from time to time be decided to apply.

5. The maximum number of marks for each subject is 100; Pass marks for First-Class Certificate—Forestry, 75; all other subjects, 60. Pass marks for Second-Class Certificate—Forestry, 60: all other subjects, 50.

6. A Candidate who obtains Pass marks in certain subjects, but fails in others, may come up for these other subjects alone, it being understood that without the special permission of the Society no Candidate will be eligible to enter for more than two subsequent examinations.

7. A Candidate who has obtained the Second-Class Certificate may enter again for the First-Class Certificate.

The list of students who obtained certificates prior to 1899 appears in the 'Transactions,' Fifth Series, vol. xi. (1899).

The following have since obtained First-Class Certificates:—

Eric Arthur Nobbs, Department of Agriculture, Cape Town,	1899
George Potts, Grey College, Bloemfontein, Orange River Colony,	1899
Duncan S. Rabagliati, 1 St Paul's Road, Bradford,	1901
Frank Scott, Dumfries House Mains, Cumnock,	1903
William T. Stockley, Rose Villa, Garswood, near Wigan,	1906

The following have since obtained Second-Class Certificates:—

William Bruce, B.Sc., East of Scotland College of Agriculture, Edinburgh,	1901
Rajappier Swaminathan, 56 Jesus Lane, Cambridge,	1901
Thomas Usher, Courthill, Hawick,	1901
Alexander Mitchell, Braidwood, Gorebridge,	1903
Allan Carruth, Lawmarnock, Kilbarchan,	1905
Alex. M. Lumsden, Newburn Schoolhouse, Upper Largo,	1905
Robert M. Wilson, Laws Cottage, Duns,	1905
Thomas Campbell, Greystoke, Penrith,	1906
Donald Ferguson, Quarry Lane, Lennoxtown,	1906

SYLLABUS OF EXAMINATION

I.—SCIENCE OF FORESTRY AND PRACTICAL MANAGEMENT OF WOODS.

I. *Principles of Scientific Forestry.*—1. Effects of heat, light, moisture, and air-currents on forest vegetation. 2. Effects of depth, porosity, moisture, and chemical composition of the soil on forest vegetation. 3. Effects of forest vegetation on the soil and air. 4. Rate and extent of development, longevity, and reproductive power of trees. 5. Pure and mixed woods. 6. Systems of sylviculture.

II. *Practical Management of Woods.*—7. Draining and irrigation. 8. Choice of species for various situations. 9. Seed and sowing, including nurseries. 10. Planting. 11. Natural regeneration by seed, shoots, and suckers. 12. Formation of mixed woods. 13. Tending of young woods. 14. Pruning. 15. Thinning. 16. Sylvicultural characteristics of the principal trees.

III. *Injuries by Storms and Fires.*—17. Storms. 18. Fires.

IV. *Timber.*—19. Its technical properties. 20. Its defects. 21. Recognition of different kinds of timber. 22. Processes for increasing its durability.

V. *Utilisation of Produce.*—23. Uses of wood and other produce. 24. Felling. 25. Conversion. 26. Seasoning. 27. Transport. 28. Sales. 29. Harvesting of bark.

VI. *Forest Organisation.*—30. General ideas regarding a regulated system of forest management.

II.—FOREST BOTANY AND FOREST ZOOLOGY.

(*a*) FOREST BOTANY.

The fundamental facts of morphology, physiology, and classification of plants. The structure and function of the plant-cell and the plant-tissues. Their primary distribution. The secondary changes they exhibit in consequence of perennation.

The structure and function of the root and shoot in flowering-plants. Buds, their forms and uses. The flower. The fruit. The seed.

The structure and function of vegetative and reproductive organs of fungi.

Relationship of plants to air, soil, and water. Effect of light, heat, and mechanical ageneies upon plants. Nutrition. The nature and elements of the food of plants. Sources of plant-food. The absorption, elaboration, transference, and storage of food. Respiration and transpiration. Parasites and saprophytes. Symbiosis.

Growth of plants in length and thickness. Correlation of growth, pruning. Germination of seeds. Formation of wood and bark. Healing of wounds.

Diseases of plants due to faulty nutrition and unfavourable circumstances of growth. Diseases due to attacks of fungi.

Natural reproduction and propagation by seeds and by buds. Fertilisation of flowers. Hybridisation. Artificial propagation by budding, grafting, layering, and cutting.

The characters of the large groups and classes of the vegetable kingdom. The characters of the families of plants which include the chief timber trees. The botanical characteristics of the principal British forest-trees (including the structural features of their wood). The weeds of the forest and their significance.

(*b*) FOREST ZOOLOGY.

The group Insecta: its position in the animal kingdom. Structure, mode of reproduction, and metamorphosis of insects. The outlines of classification of the group. Conditions favourable to the numerical increase of insects. Natural checks to increase (*e.g.*, birds, mammals, parasitic insects). The identification and life-history of the more important insects injurious to forest-trees and fruit-trees. The damage caused by these insect pests and their mode of attack. The damage caused by animals. Preventive and remedial measures.

III.—PHYSICS, CHEMISTRY, AND METEOROLOGY.

Physics.

Mass, weight, specific gravity, solid, liquid, and gaseous states of matter. Capillarity, osmose, vapour tension, suction pump, force pump, syphon, barometer, atmospheric pressure. Boyle's law. Levers and pulleys. Heat, measurement of heat, specific heat; transference of heat by conduction, convection, and radiation. Boiling and freezing. Latent heat. The thermometer. The conservation and transformation of energy. Light—reflection, refraction, polarisation; the spectrum. The rudiments of electricity and magnetism.

Chemistry.

Elements. Oxygen, hydrogen, nitrogen;—their preparation, properties, and chief compounds. Acids, bases, salts. Combustion, oxidation, reduction. Sulphur, carbon, phosphorus; and their compounds, with oxygen and hydrogen. Metals—potassium, sodium, calcium, magnesium, aluminium, iron, copper, lead, mercury, and their chief compounds. Carbohydrates, marsh gas, olefiant gas, alcohol, acetic acid, oxalic acid. Distillation of wood and coal.

Meteorology.

The atmosphere, its composition and physical properties. Measurement of pressure and temperature. The barometer. Rain, hail, snow, fog, cloud, dew, the dew point, hoar frost. The weathering of rocks and soils. Gases injurious to vegetation.

IV.—FOREST ENGINEERING, INCLUDING LAND AND TIMBER MEASURING AND SURVEYING; MECHANICS AND CONSTRUCTION AS APPLIED TO FENCING, BRIDGING, ROAD-MAKING, AND SAW-MILLS.

1. The use of the level and measuring-chain. Measuring and mapping surface areas. 2. The measurement of solid bodies—as timber, stacked bark, fagots, &c., earthwork. 3. The different modes of fencing and enclosing plantations; their relative advantages, durability, cost of construction, and repairs. 4. The setting out and formation of roads for temporary or permanent use. 5. The construction of bridges over streams and gullies; of gates or other entrances. 6. The construction and working of estate saw-mills.

V.—BOOK-KEEPING AND ACCOUNTS.

1. Questions in Practice, Proportion, and Decimal Fractions. 2. Book-keeping—describe books to be kept; and best method of valuing timber. 3. Practical questions in Book-keeping will also be given.

EXAMINATION PAPERS, 1906

PRACTICAL FORESTRY.

1. It is intended to plant an area of land half a mile square, and to fence it with a strong larch post and wire fence. State the length of fence required, and give a full specification.

The herbage upon the area is short, the exposure and elevation moderate, the soil light generally and fairly deep. The plants are to be set at 4 feet apart. State the varieties of the plants you would recommend, giving their size and age, also the method and cost of planting (per acre), as well as the *total* cost per acre, inclusive.

2. State what you know of the benefits, or otherwise, of pruning (*a*) hardwood or broad-leaved trees, and (*b*) Firs and true Pines. State also what advantage may be expected from the operation of thinning plantations. Assuming that the conditions of soils, situations, and exposures are average, at what age should the first thinning take place in (*a*) mixed plantations, (*b*) pure Pine or Fir, and (*c*) hardwoods or broad-leaved trees?

3. What are the conditions, such as soil, situation, and altitude, under which Larch thrive best? State the size and age of plants, mode of planting, and whether you would have the plantations pure or mixed. If the latter, state the kinds, and why.

4. A "mixed" plantation of thirty years of age, planted originally at 3 feet apart, has received no attention for twenty years, and consequently contains many dead trees. State briefly how you would deal with it (1) having regard to the future crop of timber, and (2) to maintain its efficiency as a game-preserve.

5. In dealing with land which had been previously planted, explain why you would give it a short rest, what preparatory treatment you would adopt during the "resting period," the age at which you would plant Scotch Fir, Larch, and Spruce together, with the methods of planting.

6. State briefly the methods of preparing the ground and of planting a young thorn hedge, together with the cost of the same, and the best methods of training for the first ten years.

(*Two hours allowed.*)

FOREST BOTANY AND FOREST ZOOLOGY.

(*A*) FOREST BOTANY.

(Four *questions to be answered.*)

1. Describe pollination, fertilisation, and the changes that follow fertilisation, in the Scots Pine.

2. Carefully describe the healing of a wound. How would you prune so that successful healing might follow?

3. Give the life-history, with notes on preventive and remedial measures, of Trametes radiciperda.

4. Compare as regards flowers and fruit the following trees: Birch, Oak, Elm, Acer, Lime, Hazel.

5. What is transpiration, what external conditions affect it, and what are its uses to the tree?

(*B*) FOREST ZOOLOGY.

(Two *questions to be answered.*)

1. Name three birds and three mammals that may be considered hurtful to trees, and say in what way they do harm.

2. Make a list of useful forest insects, and say why you consider each one named to be useful.

3. Describe and distinguish any two kinds of insect gall to be met with on the oak, and give the life-history of the maker.

(*Two hours allowed.*)

PHYSICS, CHEMISTRY, AND METEOROLOGY.

1. What is meant when we say that water has a heat capacity or specific heat over five times as great as that of sand? Could you describe any experiment in illustration of this difference in heat capacity?

2. What is nitric acid? How is it produced in nature? What takes place if nitric acid and chalk are mixed together?

3. What is the chief phosphate found in nature? Mention other phosphates commonly found in manures. Give some account of the solubility of each phosphate you mention.

4. How is acetic acid prepared from alcohol. and how is it obtained from wood?

5. What part does carbon dioxide play in the weathering of rocks? Why is carbon dioxide generally more plentiful in the air of the soil than in ordinary air?

(An hour and a half allowed.)

LAND MEASURING, &c.

1. Assume the figures to be in your note-book as you have measured them with an imperial link chain. Calculate the contents from the figures, and give the result in acres, roods, and poles. Fig I.

2. Assume that you have plotted the Plan ABCD. Describe how you have done so with scale and compasses.

3. Assume that Figure I. represents a Plantation, and that you cannot chain inside; describe how you would survey outside, so as to be able to plot this Plan by angles measured by the chain. Draw your chain lines and angles in pencil on the Plan, and describe how you proceed.

4. Assume you have measured and taken the levels for Figure II. Calculate the contents of ABC earth cutting with the horizontal section, and the cross section at C, and similar cross sections at A and B according to their depths, and state the contents in cubic yards.

5. State the gradients of AB and CD represented by the dotted lines.

6. Sketch a bridge for estate use, and of estate timber, across a water-course 30 feet wide at the surface of ground.

7. Sketch a roadway 20 feet wide, metalled 15 feet, and describe how you would form it and construct it for estate purposes.

(Two hours allowed.)

ARITHMETIC AND BOOK-KEEPING.

1. Find by practice the value of 72 cwt. 3 qr. 17 lb. at £1, 4s. 6d. per cwt.

2. Reduce £9, 14s. 7d. to the decimal of a guinea, correct to five places of decimals.

3. If 24 men can do a piece of work in 4 days working 10 hours a-day, in how many days can 20 men do a piece of work half as much again in quantity working 8 hours a-day?

4. When a mill-dam is full it can be emptied by the sluice in 18 hours provided no more water is allowed to enter. When the sluice is closed it can be filled in 45 hours. How long will it take to empty when water is running both in and out?

5. Draft a form of wages book suitable for a forester on a large estate.

6. The following are the transactions of the Backwood Timber Co Prepare therefrom a branched Account of Receipts and Payments for half-year to 31st March 1905, showing the balance due to or by bank and cash balance at that date.

1904.					
Oct.	1.	Balance in bank	£70	0	0
"	"	Cash in hand	5	0	0
"	20.	Drawn from bank and paid D. Brown for young trees	50	0	0
Nov.	4.	Drawn from bank and paid J. Watt for repairs to sawmill	10	2	6
"	30.	Drawn from bank for current expenditure .	25	0	0
Dec.	6.	Paid Mitchell & Co. for stationery, &c. . .	6	3	4
"	31.	Drawn from bank and paid wages for quarter .	180	0	0
1905.					
Jan.	8.	Drawn from bank and paid assessments . .	£25	2	10
"	17.	Paid expenses of litigation in connection with lawsuit	15	15	0
Feb.	14.	Drawn from bank, and paid for new engine for sawmill	60	0	0
"	28.	Received and paid into bank proceeds of larch timber sold by public auction . . .	320	0	0
March	10.	Received and paid into bank proceeds of oak timber sold to John Walker . . .	200	0	0
"	31.	Drawn from bank, and paid wages for quarter .	184	0	0
"	"	Received and paid into bank proceeds of larch timber sold to A. Johnston . . .	30	0	0
"	"	Drawn from bank, and paid head forester's salary for half year	100	0	0

(An hour and a half allowed.)

DAIRY DEPARTMENT

EXAMINATION IN THE SCIENCE AND PRACTICE OF DAIRYING

This Examination, instituted in 1897, is conducted by the National Agricultural Examination Board, appointed jointly by the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland.

REGULATIONS.

1. The Societies may hold annually in England and in Scotland, under the management of the National Agricultural Examination Board appointed by them, one or more Examinations for the National Diploma in the Science

and Practice of Dairying; the Diploma to be distinguished shortly by the letters "N.D.D."

2. The Examinations will be held on dates and at places from time to time appointed and duly announced.

3. A non-returnable fee of £1 will be required from each candidate.

4. Forms of Entry for the Examination in England may be obtained from the Secretary of the Royal Agricultural Society of England, 16 Bedford Square, London, W.C., and must be returned to him duly filled up, with the deposit of £1, on or before 31st August.

5. Forms of Entry for the Examination in Scotland may be obtained from the Secretary of the Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh, and must be returned to him duly filled up, with the deposit of £1, on or before 31st August.

6. A candidate may enter for the Examination either in England or Scotland, but not in both; and a candidate who has once taken part in an Examination in England cannot enter for an Examination in Scotland, or *vice versa.* No candidate may sit for the Examination more than twice.

7. A candidate will be required to satisfy the Examiners, by means of written papers, practical work, and *vivâ voce*, that he or she has—

(1) A general knowledge of the management of a Dairy Farm, including the rearing and feeding of Dairy Stock, the candidate being required to satisfy the examiners that he or she has had a thorough training and practical experience in all the details of Dairy work as pursued on a farm.

(2) A thorough acquaintance, both practical and scientific, with everything connected with the management of a Dairy, and the manufacture of Butter and Cheese.

(3) Practical skill in Dairying, to be tested by the making of Butter and Cheese

(4) Capacity for imparting instruction to others

8. The Board reserve the right to postpone, to abandon, or in any way, or at any time, to modify an Examination, and also to decline at any stage to admit any particular candidate to the Examination.

By Order,
ERNEST H. GODFREY,
Secretary to the Board,
13 Hanover Square, London, W.

December 1906.

SYLLABUS OF SUBJECTS OF EXAMINATION

I.—GENERAL MANAGEMENT OF A DAIRY FARM.

1. *General Management of Pastures and Crops on a Dairy Farm.*

2. *Buildings.*—Situation, Surroundings, Construction, Ventilation, and Drainage of Farm Buildings. Suitability of building materials. Water supply. Construction and arrangements of Dairies: (*a*) for General Purposes; (*b*) for Special Purposes.

3. *Foods and Feeding.*—Summer and Winter Feeding of Dairy Cattle. Root crops. Green fodder. Ensilage. Different kinds of food and their composition. Their effect upon Milk, Butter, and Cheese. Special Foods used in Dairy Feeding. Preparation of food for Dairy Stock. Rearing

and feeding of young Stock. Feeding and management of Pigs and Poultry.

4. *Dairy Cattle in Health and Disease.*—Characteristics of different Breeds, and choice of Dairy Cattle. General functions of the organs of the animal body. Breeding. Parturition. Organs which secrete milk. Process of milk secretion. Changes which food undergoes during digestion. Diseases of Dairy Cattle and their remedies.

II.—MANAGEMENT OF A DAIRY.

1. *Milk and Cream.*—Process of Milking. Dairy Utensils and Appliances, hand and power. Cooling of Milk. Separation and ripening of Cream. Different systems of Cream-raising. Utilisation of Skim-milk. Keeping of Milk. Importance of Cleanliness. Diseases spread by Milk. Conveyance and sale of Milk. Milk records. Keeping of Dairy and Farm Accounts. Creameries. Butter and Cheese Factories. Different systems of Dairying and their comparative returns.

2. *Butter.*—Churns and other Butter-making appliances, hand and power. Souring of Cream. Churning. Washing and working of Butter. Butter-milk. Packing and transmission of Butter. Salting and keeping of Butter. Colouring. Characteristics of good Butter.

3. *Cheese.*—Principles of its manufacture. Making of different kinds of Cheese (from cream, whole-milk, and skim-milk). Acidity of Milk. Use of Rennet and its substitutes. Whey. Appliances for Cheese-making. Ripening and storage of Cheese. Packing and sale of Cheese. Making of Cream and other soft Cheeses.

III.—CHEMISTRY AND BACTERIOLOGY.

[*N.B.*—In this Section there will be expected of the candidate a sound understanding of the scientific principles underlying the practice of Dairying, a knowledge of the composition, nature, properties, and changes undergone by the different substances met with in Dairying, and a general acquaintance with the principles of laboratory methods so far as Dairying is concerned.]

1. *General Principles of Chemistry.*—The nature of elements and compound bodies. The different forms of matter—solid, liquid, gaseous. Specific gravity, and instruments for determining it. Temperature, and methods of measuring it. Thermometric scales. The influence of temperature in Dairy operations. Physical and chemical changes involved in the following: solution, precipitation, filtration, distillation, oxidation, and reduction. Acids, Bases, Salts—their distinctive properties. Acidity and Alkalinity—their influence and quantitative estimation.

The Atmosphere—its constituents and impurities; its influence on Dairy operations. Atmospheric pressure.

Water—constituents of pure and natural waters. The impurities of water and whence derived. The importance of a pure water-supply in Dairying.

General knowledge of the elementary chemistry of the following substances and their compounds so far as met with in Dairying: Potash, Soda, Ammonia, Lime, Phosphoric Acid, Alcohol, Acetic Acid, Carbonic Acid, Butyric Acid, Lactic Acid, Albumen, Casein, Fats, Milk-sugar, Glycerine, Pepsin.

Saponification of Fats.

2. *Milk and its Products.*—The nature, composition, properties, and chemical constituents of milk. Microscopical appearances presented by

milk. The circumstances that affect the quality and quantity of milk produced by the cow. The influence of feeding. The changes which occur in the keeping of milk, and how produced. The natural and artificial souring of milk. Rennet, its nature and use. Physical and chemical changes involved in the making and keeping of Butter, and in the manufacture and ripening of Cheese. Separated Milk, Condensed Milk, Fermented Milk. The use of Preservatives. Methods of Milk-testing—Mechanical methods, their theory and practice. A general knowledge of the methods employed in the chemical analysis of Milk and Butter. Adulteration of Milk, Cream, Butter, and Cheese—the ways in which adulteration is practised, the changes in composition thereby produced, and a general knowledge of the methods employed in detecting the same.

3. *The Chemistry of Feeding.*—The principal constituents of Food materials, and the functions they severally fulfil. The influence of Food constituents on milk production. Assimilation and Digestion. Animal Heat and Respiration. Milk as a Food. The relation of Food to Manure.

4. *Bacteriology.*—Moulds. Yeasts. Bacteria. The principal kinds of Bacteria met with in Dairying—their forms, methods of reproduction, and conditions of life. The influence of physical agencies upon Bacterial life. Air and Water as carriers of Bacteria. The changes produced by Bacteria in milk and its products. Useful forms and their functions. Harmful forms and their effects—Coagulation, Discoloration, Taints, &c. Pathogenic organisms. The classification of organisms—organised ferments and enzymes. Methods of preparation of pure cultures and their practical use. Nutritive media. Pasteurisation and Sterilisation — the practical application of these to Dairy matters. Fermentation and Putrefaction. Disinfectants and Preservatives.

IV.—PRACTICAL SKILL IN DAIRY WORK.

Candidates must be prepared—(1) to produce at or before the Examination a satisfactory certificate of proficiency in the Milking of Cows, signed by a practical Dairy Farmer, and to satisfy the Examiners by a practical test, if so required ; (2) to churn and make into Butter a measured quantity of Cream ; and (3) to make one Cheese of each of the following varieties : (i) Hard-pressed, of not less than 30 lb. ; (ii) Veined or blue-moulded, of not less than 10 lb. ; and (iii) also to make one or other of the following Soft Cheeses : Camembert, Coulommier, or Pont l'Evêque.

V.—CAPACITY FOR IMPARTING INSTRUCTION TO OTHERS.

Candidates must also show practically that they are familiar with the management of a Dairy, and are capable of imparting instruction to others.

EXAMINATIONS IN 1907.

ENGLAND—Saturday, September 21, and following days, at a centre to be announced ; last date for receiving applications, Saturday, August 31.

SCOTLAND—Monday, September 30, and following days, at the Dairy School for Scotland, Kilmarnock ; last date for receiving applications, Saturday, August 31.

The following obtained the Diploma in Scotland in 1906 :—

Miss Edith Anderson, Berryhill, Fowlis Easter, Dundee.
John Anderson, Spango, Sanquhar.
John Cochrane, Byreholm, Penpont, Dumfries.
Miss Catherine M. Dallas, 117 Warrender Park Road, Edinburgh.
Miss Margaret Turnbull Dougall, Bonnybridge, Stirlingshire.
John Dunlop, Nether Balgillo, Tannadice, Forfar.
Miss Mary Finlayson, Ardjachie Farm, Tain.
Miss Lilias Lees, Lagg Farm, Ayr.
Thomas Limond, Whitehill, Trabboch, Ayr.
James Mackintosh, Lilybank, Blairgowrie.
Miss Grace Robertson, The Dog Leap, Limavady, Co. Derry.
Wilfred George Sandeman, Ferndean, Lenzie, Glasgow.
John Hunter Smith, Grange, Kilmarnock.
Miss Lily Strang, Strathmuir, Allanshaw Road, Hamilton.

The following obtained the Diploma in England in 1906 :—

Walter Biffen, Midland Agricultural and Dairy College, Kingston, Derby.
George Ramsey Bland, Lancashire C.C. Farm, Hutton, Preston.
Mrs Anna M. E. Bowmer, Midland Agricultural and Dairy College, Kingston, Derby.
Charles Robert Dewey, Midland Agricultural and Dairy College, Kingston, Derby.
Miss Maude Elizabeth Dobson, Midland Agricultural and Dairy College, Kingston, Derby.
Robert Fenton, University College and British Dairy Institute, Reading.
George E. H. Ferry, University College and British Dairy Institute, Reading.
Miss Gertrude Marion Freeman, Midland Agricultural and Dairy College, Kingston, Derby.
Harold Gathorne, Midland Agricultural and Dairy College, Kingston, Derby.
John Miller Lonsdale, Lancashire C.C. Farm, Hutton, Preston.
Miss Hilda France Newbigin, Midland Agricultural and Dairy College, Kingston, Derby.
Miss Edith Noble, Midland Agricultural and Dairy College, Kingston, Derby.
Miss Alice Hannah Pimlott, Midland Agricultural and Dairy College, Kingston, Derby.
Wilfrid Sadler, University College and British Dairy Institute, Reading.
Robert William Staniforth, Lancashire C.C. Farm, Hutton, Preston.
William Sugden, Lancashire C.C. Farm, Hutton, Preston.
Miss Frances Mary Taylor, Midland Agricultural and Dairy College, Kingston, Derby.
Miss Tannie Wood, Midland Agricultural and Dairy College, Kingston, Derby.
Victor Lionel Yates, University College and British Dairy Institute, Reading.

EXAMINATION PAPERS OF PAST YEARS.

Copies of the Papers set at the Examinations in 1905 and 1906 may be had on application. Price 6d. per set.

CHEMICAL DEPARTMENT

Chemist to the Society—JAMES HENDRICK, B.Sc., F.I.C., F.C.S.,
Agricultural Department, Marischal College, Aberdeen.

The object of the Chemical Department is to promote the diffusion of a knowledge of Chemistry as applied to agriculture among the members of the Society, to carry out experiments for that purpose, to assist members who are engaged in making local experiments requiring the direction or services of a chemist, to direct members in regard to the use of manures and feeding-stuffs, to assist them to put the purchase of these substances under proper control, and in general to consider all matters coming under the Society's notice in connection with the Chemistry of Agriculture.

MEMBERS' PRIVILEGES IN RESPECT OF ANALYSES.

The fees of the Chemist for analyses made for members of the Society shall, until further notice, be as follows:—

The estimation of *one* ingredient in a manure or feeding-stuff, .	5s.
The estimation of *two* or *more* ingredients in do. .	10s.

These charges apply only to analyses made for agricultural purposes, and for the sole and private use of members of the Highland and Agricultural Society who are not engaged in the manufacture or sale of the substances analysed.

Valuations of manures, according to the Society's scale of units, will be supplied if requested.

MISCELLANEOUS.

Analysis of water[1] to determine purity and fitness for domestic use (not more than one analysis per year for any one member), ...	£1	0	0
Analysis of agricultural products—hay, grain, ensilage, roots, &c., ...	1	0	0
Milk, full analysis, ...	0	10	0
Milk, solids and fat, ...	0	5	0
„ fat only, ...	0	2	6
Butter, full analysis, ...	0	10	0
„ partial analysis (water and fat), . . .	0	5	0
Cheese, ...	0	10	0
Limestone, giving the percentage of lime, . . .	0	5	0
Limestone, complete analysis, ...	1	0	0
Lime, including ground lime, percentage of alkaline lime, .	0	5	0
„ „ „ complete analysis, . .	1	0	0
Analysis of soil, to determine fertility and recommendation of manurial treatment, ...	1	10	0

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[1] Cases containing bottles for water samples and instructions for sampling are sent from the laboratory on application.

Complete analysis of soil,	£2 10 0
Search for poisons in food or viscera,	2 0 0
Sulphate of copper, percentage of copper and purity,	0 5 0
" " complete analysis,	0 10 0
Arsenic, carbolic acid and tar acids, and other poisons used in making sheep dips, &c.,	5s. to £1

Samples should be sent (carriage paid) to James Hendrick, B.Sc., Agricultural Department, Marischal College, Aberdeen.

Note to Members sending Samples for Analysis.

The Directors are anxious to take any steps in their power to expose the vendors of inferior fertilisers and feeding-stuffs, and the members can give them assistance in this by supplying to the chemist, when sending samples for analyses, information as to the guarantee, if any, on which the goods were sold, and also as to the price charged.

INSTRUCTIONS FOR SELECTING SAMPLES FOR ANALYSIS.

MANURES.

Any method of sampling mutually agreed upon between buyer and seller may be adopted, but the following method is recommended as a very complete and satisfactory one: Four or more bags should be selected for sampling. Each bag is to be emptied out separately on a clean floor, worked through with the spade, and one spadeful taken out and set aside. The four or more spadefuls thus set aside are to be mixed together until a uniform mixture is obtained. Of this mixture one spadeful is to be taken, spread on paper, and still more thoroughly mixed, any lumps which it may contain being broken down with the hand. Of this mixture two samples of about half a pound each should be taken by the purchaser or his agent, in the presence of the seller or his agent or two witnesses (due notice having been given to the seller of the time and place of sampling), and these samples should be taken as quickly as possible, and put into bottles or tin cases to prevent loss of moisture, and having been labelled, should be sealed by the samplers—one or more samples to be retained by the purchaser, and one to be sent to the chemist for analysis.

FEEDING-STUFFS.

Samples of feeding-stuffs which are in the form of meal may be taken in a similar manner.

Samples of cake should be taken by selecting four or more cakes from the bulk. These should be nutted to a size not larger than walnuts. The nutted cake should then be thoroughly mixed and samples of not less than one pound each taken from it. The samples should be put into bottles or tins, sealed up, and labelled. One sample should be sent to the analyst, and one or more duplicates retained by the purchaser.

SOILS.

Dig a little trench about two feet deep, exposing the soil and subsoil. Cut from the side of this trench vertical scrapings of the soil down to the top of the subsoil. Catch these on a clean board, and collect in this manner two pounds of soil taken from the whole surface of the section. Similar scrapings of subsoil immediately below should be taken and preserved separately. Five or six similarly drawn samples at least should be taken from different parts of the field, and kept separate while being sent to the chemist, that he may examine them individually before mixing in the laboratory.

VEGETABLE PRODUCTS.

Turnips, &c., at least 50 bulbs carefully selected as of fair average growth.

Hay, straw, ensilage, &c., should be sampled from a thin section cut across the whole stack or silo, and carefully mixed; above 2 lb. weight is required for analysis.

Grain should be sampled like manures.

DAIRY PRODUCE.

Milk.—Samples of milk from individual cows should be taken direct from the milk-pail after complete milking. Average samples from a number of cows should be taken immediately after milking. Specify whether the sample is morning or evening milk, or a mixture of these. Samples to be tested for adulteration should not be drawn from the bottom or taken from the top of standing milk, but they should be ladled from the vessel after the milk has been thoroughly mixed. Samples of milk should be sent immediately to the analyst.

For most purposes a half-pint bottle of milk is a large enough sample.

Butter and Cheese.—About quarter-pound samples are required.

WATERS.

When the water is from a well, it should be pumped for some minutes before taking the sample.

If the well has been standing unused for a long time, it should be pumped for some hours, so that the water may be renewed as far as possible.

If the well has been newly dug or cleaned out, it should be pumped as dry as possible, daily, for a week before taking the sample.

Water from cisterns, tanks, ponds, &c., should be sampled by immersing the bottle entirely under the water, and holding it, neck upwards, some inches below the surface. *Water from the surface should not be allowed to enter the bottle.*

Spring or stream water should not be sampled in very wet weather, but when the water is in ordinary condition. Such waters should be sampled by immersing the bottle, if possible; but if not deep enough for that purpose, a perfectly clean cup should be used for transferring the water to the bottle.

When the bottle has been filled the stopper should be rinsed in the water before replacing it.

Interference with or disturbance of wells or springs, or the ground in their immediate vicinity, must be carefully avoided during sampling, and for at least twenty-four hours before it.

After a sample has been taken, it should be sent to the laboratory as speedily as possible.

A description of the source and circumstances of the water should accompany the sample, as the interpretation of the analytical results depends to some extent on a knowledge of such particulars.

N.B.—Stone jars and old wine bottles are unsuitable for conveying samples. Winchester quarts chemically cleaned should be obtained from the laboratory, Marischal College, Aberdeen.

LOCAL ANALYTICAL ASSOCIATIONS.

With the view of encouraging, as well as regulating the conduct of, Local Analytical Associations, the Society, from 1881 to 1893, contributed from its funds towards their expenses a sum not exceeding £250 annually. In view of the passing of the Fertilisers and Feeding Stuffs Act, 1893, it was decided, at a meeting of the Directors on the 6th of December 1893, to discontinue that grant after the 1st of March 1894.

COMPOSITION AND CHARACTERISTICS OF MANURES AND FEEDING-STUFFS.

(*See* '*Transactions*,' *Fifth Series*, *vol. xi.* 1899.)

FORMS OF GUARANTEE

Guarantee of Manure.

I guarantee that the manure called.....................and sold by me to ....contains a minimum of—

Soluble phosphoric acid =Phosphate of lime dissolved. ....per cent.
Insoluble phosphoric acid=Phosphate of lime undissolved .... per cent.
Potash salts . . =Potash (K_2O) . . . .per cent.
Total nitrogen . . =Ammonia . . . . per cent.

Signature of seller..

Date..................19..

Guarantee of Feeding-Stuff.

I guarantee that the feeding-stuff called...............and sold by me to ....contains a minimum of—

. per cent albuminoids.
. per cent oil.
. per cent carbohydrates.

Signature of seller..

Date..................19...

UNITS TO BE USED IN DETERMINING THE MARKET PRICE OF MANURES.[1]

Terms—CASH, including Bags gross weight—not including Carriage.

N.B.—These units are based on the RETAIL CASH PRICES OF MANURES at Leith and Glasgow. When these units are multiplied by the percentages in the analysis of a Manure, they will produce a value representing very nearly the *cash price* at which TWO TONS may be bought in fine sowable condition at Leith or Glasgow. Larger purchases may be made on more favourable terms, but for smaller purchases an extra charge of 1s. 6d. per ton is made.

FOR SEASON 1907.

CASH PRICES AS FIXED ON 6TH FEBRUARY.

Items to be Valued.	Peruvian (Riddled).		Fish Guano.	Bone Meal	Steamed Bone Flour	Dissolved or Vitriolated Bones	Super-phosphates.	
	Nitrogenous	Phosphatic.					Under 30 , Sol.	30% Sol or over.
	P unit	P unit	P unit	P unit.	P unit	P unit.	P unit	P unit
Phosphates dissolved	1/6	1 6	.	..	..	2/7	2 0½	2/-
" undissolved			1/3	1/4	1/3	1/4	..	..
Potash	3/6	3/6		.	.	..	..	..
Nitrogen	17/6	15/6	14/6	12/1	12/1	17/-	..	..
Prices per ton—								
From	160/ upwards	115/ upwards	100/ upwards	105/-	90/-	110/-	53/-	
To	..	..	..	115/-	100/-	115/-	78/-	

MANURES

At LEITH and GLASGOW, except in case of Thomas-slag phosphate.	Guarantee.	Price per Ton.	Unit.
	Per cent.	£ s d.	
Sulphate of ammonia[2]	20 Nitrogen	12 5 0	Nit. =12/3
Nitrate of soda, 95 per cent[2]	15 5 "	11 5 0	" =14/6
Muriate of potash, 80 per cent	50 Potash	8 15 0	Pot. = 3/6
Sulphate of potash	52 "	9 15 0	" = 3/9
Kainit	12 "	2 5 0	" = 3/9
Potash salts	30 "	4 15 0	" = 3/2
Thomas-slag phosphate at place of production	30 Phosphate	1 15 0	Phos. = 1/2
" "	38 "	2 0 0	" = 1/1
Ground mineral phosphate	60 "	2 10 0	" = /10

NOTE —*This Schedule of Unit Prices of Manures and Feeding-Stuffs is revised each year in the first week of February. Copies of the Schedule may be had by Members any time thereafter.*

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[1] Instructions regarding units and the valuation of manures are given on p. 36

[2] These are the February prices, but they are subject to variation from month to month or oftener.

Feeding-Stuffs.	Average Analyses.			Price per ton at Leith and Glasgow.		
	Album.	Oil.	Carbo-hydrates.	£	s	d.
Linseed-cake	28	9	35	8	0	0
„ Canadian or American	30	7	35	7	7	6
Decorticated cotton-cake	40	9	20	7	12	6
„ „ Seed-meal	40	9	20	7	12	6
Undecorticated „ (Egyptian)	22	5	30	5	0	0
„ „ (Bombay)	19	4 5	30	4	15	0
Bean-meal, English [1]	25	2	50	7	16	0
Rice-bran, Rangoon	12	13	50	5	0	0
Locust-bean meal	6	2	70	5	15	0
Dried Distillery grains	20	8	45	5	0	0
„ Brewery or malt distillery grains	16	6	50	4	17	6
Barley-bran	15	5	50	5	10	0
Indian corn (American) [1]	10	5	55	5	5	0
Paisley meal (at Paisley)	15	9	60	5	7	6
Linseed (whole)	20	35	14	13	0	0
Linseed-oil	..	..	..	22	10	0
Treacle	..	..	..	4	15	0

[1] These are the February prices, but they are subject to variation from month to month or oftener.

CLASSIFICATION OF MANURES.

Peruvian guano	Guanos with over 4 per cent of nitrogen are to be considered as nitrogenous. Those with less than this percentage are to be classed as phosphatic guano.
Bone-meal	Genuine bone-meal contains from 45 per cent to 55 per cent phosphates, and from 4 per cent to 5 per cent ammonia. If phosphates are low, ammonia will be high, and conversely.
Steamed bone-flour	Ground to flour, and containing about 60 to 65 per cent phosphates and about 1 to 1½ per cent nitrogen.
Dissolved bones	Must be pure—i.e., containing nothing but natural bones and sulphuric acid.
Mixtures and compound manures	To be valued according to the following unit prices: nitrogen, 12s. 3d.; soluble phosphate, 2s.; insoluble phosphate, 1s. 3d.; potash, 3s. 3d., with an addition of 5s per ton for bags and 7s. 6d per ton for mixing. These units give the cash price at Leith and Glasgow.
Thomas-slag	Not less than 80 per cent of the phosphate should be citric soluble (official method of Board of Agriculture). Fineness of grinding is of paramount importance. The coarsest kind used should be so finely ground that at least 80 per cent passes through a sieve of about 9600 holes per sq. inch.

INSTRUCTIONS FOR VALUING MANURES.

The unit used for the valuation of manures is the hundredth part of a ton, and as the analyses of manures are expressed in parts per hundred, the percentage of any ingredient of a manure when multiplied by the price of the unit of that ingredient represents the value of the quantity of it contained in a ton.

As an example take muriate of potash—a good sample (see p. 35) will be guaranteed to contain 80 per cent *pure* muriate of potash; the other 20 per cent consisting of unimportant impurities, such as common salt.

But all potash manures are valued according to the amount of POTASH they yield, and 80 per cent of pure muriate of potash yields 50 per cent potash (K_2O)—*i.e.*, 50 units per ton; and as a ton of muriate of potash costs £8, 15s., the price of the unit is the fiftieth part of that—viz., 3s. 6d. If on analysis a sample of muriate of potash guaranteed to contain 50 per cent of potash is found to contain only 49 per cent, the price per ton will be 3s. 6d. less—viz., £8, 11s. 6d.

Similarly with all other manures, the price per unit is derived from the price per ton of a sample of good material up to its guarantee, and therefore the proper price per ton of a manure is found by multiplying the price of the unit of the valuable ingredient by the percentage as found by analysis. If a manure contains more than one valuable ingredient, the unit value of each ingredient is multiplied by its percentage, and the values so found when added together give approximately the price per ton of the manure.

Nitrate of soda contains no ammonia, but it contains nitrogen, and 14 units of nitrogen are equivalent to 17 units of ammonia.

The commercial values of manures are determined by means of the UNITS in the following manner:—

Take the analysis of the manure, and look for the following substances:—

Phosphates dissolved (or soluble phosphate)
" undissolved (or insoluble ")
Nitrogen = Ammonia . . . . .
Potash . . . .
} No other items but these are to be valued.

Should the analysis or the guarantee not be expressed in that way, the chemist or the seller should be asked to state the quantities in these terms.

Suppose the manure is bone-meal:—

An ordinary bone-meal will contain about 50 per cent phosphate and about 3¾ per cent nitrogen. The units for bone-meal are 1s. 4d. for phosphate and 12s. 1d. for nitrogen. Therefore the value is—

	£	s.	d.
Insol. phosphate, 50 times 1s. 4d., equal to	£3	6	8
Nitrogen, 3¾ times 12s. 1d., equal to	2	5	4
Say	£5	12	0 per ton.

Suppose the manure is dissolved or vitriolated bones:—

It must be guaranteed "pure."

The units in the Schedule are 2s. 7d. for soluble phosphate, 1s. 4d. for insoluble phosphate, and 17s. for nitrogen.

The analysis will be about 16 per cent soluble phosphate, 20 per cent insoluble phosphate, and 2¾ per cent nitrogen. In that case the value would be—

				£	s.	d.
Sol. phosphate,	16 times	2s. 7d.,	equal to	£2	1	4
Insol. "	20 "	1s. 4d.,	"	1	6	8
Nitrogen,	2¾ "	17s.,	"	2	6	9
			Say	£5	14	9 per ton.

Suppose the manure is a superphosphate,—say an ordinary superphosphate, with 38 per cent soluble phosphate and 2 per cent insoluble phosphate. It is valued thus:—

Sol. phosphate, 38 times 2s., equal to, say, £3, 16s. per ton.
Insoluble phosphate is not valued in a superphosphate.

Note.—The units have reference solely to the MARKET PRICE of Manures, and not to their AGRICULTURAL VALUES.

Thus, in stating soluble phosphate in dissolved bones at 2s. 7d. per unit, and that in superphosphate at 2s., it is meant that these are the prices per unit at which soluble phosphate can be bought in these two manures; but it does not mean that the soluble phosphate in the one is 7d. per unit better as a manure than that in the other. It is probably no better.

BOTANICAL DEPARTMENT

Consulting Botanist to the Society—A. N. M'Alpine,
6 Blythswood Square, Glasgow.

The Society have fixed the following rates of charge for the examination of plants and seeds for the *bona fide* and individual use and information of members of the Society (not being seedsmen), who are particularly requested, when applying to the Consulting Botanist, to mention the kind of examination they require, and to quote its number in the subjoined schedule. The charge for examination must be paid at the time of application, and the carriage of all parcels must be prepaid.

Scale of Charges.

1. A report on the purity, amount, and nature of foreign materials, and the germinating power of a sample of seed, 1s.
2. Determination of the species of any weed or other plant, or of any vegetable parasite, with a report on its habits and the means for its extermination or prevention, 1s.
3. Report on any disease affecting farm crops, 1s.
4. Determination of the species of any natural grass or fodder plant, with a report on its habits and pasture or feeding value, 1s.

The Consulting Botanist's Reports are furnished to enable members—purchasers of seeds and corn for agricultural or horticultural purposes—to test the value of what they buy, and are not to be used or made available for advertising or trade purposes by seedsmen or otherwise.

Purchase of Seeds.

The purchaser should obtain from the vendor, by invoice or other writing, the proper designation of the seed he buys, with a guarantee of the percentage of purity and germination, and of its freedom from ergot, and in the case of clover, from the seeds of dodder or broom-rape.

It is strongly recommended that the purchase of *prepared mixtures* of seeds should be avoided. The different seeds should be purchased separately and mixed by the farmer: mixtures cannot be tested for germination.

The Sampling of Seeds.

The utmost care should be taken to secure a fair and honest sample. This should be drawn from the bulk delivered to the purchaser, and not from the sample sent by the vendor.

When legal evidence is required, the sample should be taken from the bulk, and placed in a sealed bag in the presence of a witness. Care should be taken that the sample and bulk be not tampered with after delivery, or mixed or brought in contact with any other sample or bulk.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals and the larger seeds. When the bulk is obviously impure the sample should be at least double the amount specified. Grass seeds should be sent at least four weeks, and seeds of clover and cereals two weeks, before they are to be used.

The exact name under which the sample has been sold and purchased should accompany it.

Reporting the Results.

The Report will be made on a schedule in which the nature and amount of impurities will be stated, and the number of days each sample has been under test, with the percentage of the seeds which have germinated.

"Hard" clover seeds, though not germinating within the time stated, will be considered good seeds, and their percentage separately stated.

The impurities in the sample, including the chaff of the species tested, will be specified in the schedule, and only the percentage of the pure seed of that species will be reported upon; but the REAL VALUE of the sample will be stated. The Real Value is the combined percentages of purity and germination, and is obtained by multiplying these percentages and dividing by 100: thus in a sample of Meadow Fescue having 88 per cent purity and 95 per cent germination, 88 multiplied by 95 gives 8360, and this divided by 100 gives 83 6, the Real Value.

Selecting Specimens of Plants.

The whole plant should be taken up and the earth shaken from the roots. If possible the plants must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstances (soil, situation, &c) which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage paid) must be addressed to Professor M'Alpine, Botanical Laboratory, 6 Blythswood Square, Glasgow.

ENTOMOLOGICAL DEPARTMENT

Consulting Entomologist to the Society—Dr R. STEWART MACDOUGALL,
13 Archibald Place, Edinburgh.

Arrangements have been made with Mr R. Stewart MacDougall, M.A., D.Sc., Edinburgh, to advise members of the Society regarding insects or allied animals which, in any stage of their development, infest—

(*a*) Farm crops.
(*b*) Stored grain.
(*c*) Garden and greenhouse plants.
(*d*) Fruit and fruit trees.
(*e*) Forest trees and stored timber.
(*f*) Live stock (including poultry).

Members consulting Dr MacDougall will please forward with their queries examples of the injured plants, or the injured parts of plants, &c., as well as specimens of the insects or other animals believed to be the cause of the injury.

Specimens should be sent in tin or wooden boxes, or in quills, to prevent injury in transmission.

Address letters and parcels (carriage or postage paid) to Dr R. Stewart MacDougall, 13 Archibald Place, Edinburgh.

The Directors have fixed the fee payable by members to Dr MacDougall at 1s. for each case upon which he is consulted: this fee must be sent to him along with the application for information.

PREMIUMS

GENERAL REGULATIONS FOR COMPETITORS.

1. It is to be distinctly understood that the Society is not responsible for the views, statements, or opinions of any of the writers whose papers are published in the 'Transactions.'

2. All reports must be legibly written, and on one side of the paper only; they must specify the number and subject of the Premium for which they are in competition; they must bear a distinguishing motto, and be accompanied by a sealed letter, similarly marked, containing the name and address of the reporter—initials must not be used.

3. No sealed letter, unless belonging to a report found entitled to the Premium offered, or a portion of it, will be opened without the author's consent.

4. Reports for which a Premium, or a portion of a Premium, has been awarded, become the property of the Society, and cannot be published in whole or in part, nor circulated in any manner, without the consent of the Directors. All other papers will be returned to the authors if applied for within twelve months.

5. The Society is not bound to award the whole or any part of a Premium.

6. All reports must be of a practical character, containing the results of the writer's own observation or experiment, and the special conditions attached to each Premium must be strictly fulfilled. General essays, and papers compiled from books, will not be rewarded or accepted. Weights and measurements must be indicated by the imperial standards.

7. The Directors, before or after awarding a Premium, shall have power to require the writer of any report to verify the statements made in it.

8. The decisions of the Board of Directors are final and conclusive as to all matters relating to Premiums, whether for Reports or at General or District Shows; and it shall not be competent to raise any question or appeal touching such decisions before any other tribunal.

9. The Directors will welcome papers from any Contributor on any suitable subject, whether included in the Premium List or not; and if the topic and the treatment of it are both approved, the writer may be remunerated and his paper published.

CLASS I.

REPORTS.

SECTION 1.—THE SCIENCE AND PRACTICE OF AGRICULTURE.

FOR APPROVED REPORTS.

1. On any useful practice in Rural Economy adopted in other countries, and susceptible of being introduced with advantage into Scotland—The Gold Medal. To be lodged by 1st November in any year.

The purpose chiefly contemplated by the offer of this premium is to induce travellers to notice and record such particular practices as may seem calculated to benefit Scotland. The Report to be founded on personal observation.

2. Approved Reports on other suitable subjects. To be lodged by 1st November in any year.

SECTION 2.—ESTATE IMPROVEMENTS.

FOR APPROVED REPORTS.

1. By the Proprietor in Scotland who shall have executed the most judicious, successful, and extensive Improvement—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

Should the successful Report be written for the Proprietor by his resident factor or farm manager, a Minor Gold Medal will be awarded to the writer in addition to the Gold Medal to the Proprietor.

The merits of the Report will not be determined so much by the mere extent of the improvements, as by their character and relation to the size of the property. The improvements may comprise reclaiming, draining, enclosing, planting, road-making, building, and all other operations proper to landed estates. The period within which the operations may have been conducted is not limited, except that it must not exceed the term of the Reporter's proprietorship.

2. By the Proprietor or Tenant in Scotland who shall have reclaimed within the ten preceding years not less than forty acres of Waste Land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

3. By the Tenant in Scotland who shall have reclaimed within the ten preceding years not less than twenty acres of Waste Land —The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

4. By the Tenant in Scotland who shall have reclaimed not less than ten acres within a similar period—The Medium Gold

Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The Reports in competition for Nos. 2, 3, and 4 may comprehend such general observations on the improvement of waste lands as the writer's experience may lead him to make, but must refer especially to the lands reclaimed—to the nature of the soil—the previous state and probable value of the subject—the obstacles opposed to its improvement—the details of the various operations—the mode of cultivation adopted—and the produce and value of the crops produced. As the required extent cannot be made up of different patches of land, the improvement must have relation to one subject; it must be of profitable character, and a rotation of crops must have been concluded before the date of the Report. *A detailed statement of the expenditure and return* and a certified measurement of the ground are requisite.

5. By the Proprietor or Tenant in Scotland who shall have improved within the ten preceding years the Pasturage of not less than thirty acres, by means of top-dressing, draining, or otherwise, without tillage, in situations where tillage may be inexpedient—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

6. By the Tenant in Scotland who shall have improved not less than ten acres within a similar period—The Minor Gold Medal. To be lodged by 1st November in any year.

Reports in competition for Nos. 5 and 6 must state the particular mode of management adopted, the substances applied, the elevation and nature of the soil, its previous natural products, and the changes produced.

SECTION 3.—HIGHLAND INDUSTRIES AND FISHERIES.

FOR APPROVED REPORTS.

1. The best mode of treating native Wool; cleaning, carding, dyeing, spinning, knitting, and weaving by hand in the Highlands and Islands of Scotland—Five Sovereigns. To be lodged by 1st November in any year.

SECTION 4.—MACHINERY.

FOR APPROVED REPORTS.

To be lodged by 1st November in any year.

SECTION 5.—FORESTRY DEPARTMENT.

FOR APPROVED REPORTS.

1. On Plantations of not less than eight years' standing formed on deep peat-bog—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The premium is strictly applicable to deep peat or flow moss; the condition of the moss previous to planting, as well as at the date of the Report, should, if possible, be stated.

The Report must describe the mode and extent of the drainage, and the effect it has had in subsiding the moss—the trenching, levelling, or other preliminary operations that may have been performed on the surface—the mode of planting—kinds, sizes, and number of trees planted per acre—and their relative progress and value, as compared with plantations of a similar age and description grown on other soils in the vicinity.

CLASS II.

DISTRICT COMPETITIONS.

REGULATIONS 1907.

Grants in aid of DISTRICT COMPETITIONS *for* 1908 *must be applied for before 1st November* 1907, *on Forms to be obtained from the Secretary.*

When a Money Grant has expired, the District cannot apply again for another Money Grant for four years.

SECTION I.—GRANTS TO DISTRICT SOCIETIES FOR HORSES, CATTLE, SHEEP, AND PIGS.

1. CLASS OF STOCK—LIMIT OF GRANTS, £340.—The Highland and Agricultural Society will make Grants to District Societies for prizes for *Breeding Animals* of any of the following Classes of Stock, viz. :—

Cattle.

Shorthorn.
Aberdeen-Angus.
Galloway.
Highland.
Ayrshire.
Jersey.

Horses.

Draught Horses.
Hunters.
Hackneys.
Ponies.
Shetland Ponies.

Sheep.

Blackface.
Border Leicester.
Half-Bred.
Shropshire.
Oxford Down.
Suffolk.
Wensleydale.

Swine.

Any Pure Breed.

Cross-bred animals are not eligible. The Prizes must be confined to *Breeding* Animals; "bullocks," "geldings," "wethers," and "hog pigs," are excluded.

2. GRANT TO DISTRICT, £12.—The portion of the Grant to any one District Society shall not exceed the sum of £12 in any one year.

3. ALLOCATION OF GRANT.—The Grant from the Highland and Agricultural Society is not to be applied as a Grant in aid of the Premiums offered by the Local Society, but must be offered in the form of separate Prizes for the Animals chosen; *and the Prizes must be announced in the Premium List and Catalogue of the Show as "given by the Highland and Agricultural Society."*

4. CONTINUANCE OF GRANT THREE YEARS.—The Grant shall continue for three alternate years, provided always that the District Society shall, in the two intermediate years, continue the competition by offering Premiums for the same class of Stock as that selected in each previous year to compete for the Highland and Agricultural Society's Prizes. If no competition takes place for two years the Grant expires.

5. When it is agreed to hold the General Show of the Society in any district, no provincial show shall be held in that district in the months of June, July, or August.

6. MEDALS.—In the two alternate years the Highland and Agricultural Society will place three Silver Medals at the disposal of the District Societies, for the same classes of Stock as those for which the Money Premiums are offered, provided that not less than three lots are exhibited in the same class.

7. RULES OF COMPETITION.—The Rules of Competition for the Premiums, the Funds for which are derived from Grants of the Highland and Agricultural Society, shall be such as are generally enforced by the Society receiving the Grant for Premiums offered by itself.

8. AREA AND PARISHES—FIVE PARISHES.—When making application for Grants from the Highland and Agricultural Society, the District Society must delineate the area and the number of parishes comprised in the district, and, *except in special cases*, no District Society shall be entitled to a Grant whose show is not open to at least *five* Parishes.

9. REPORTS.—Blank Forms for Reports will be furnished to the Secretaries of the different District Societies. Both in the years when the Grant is offered and in the two intermediate years, detailed reports of the competition must be given on these Forms and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than 1st November. These reports are subject to the approval of the Directors of the Highland and Agricultural Society, against whose decision there shall be no appeal. All Reports must be signed and certified as marked in the Form.

10. GRANTS—WHEN PAID.—The Grants made to District Societies will be paid in December after the Reports of the awards of the prizes have been received and found to be in order and passed by the Board of Directors, the Money Grants being paid to the Secretaries of the Local Societies and the Medals sent direct to the winners. *The Secretary of the District Society must not on any condition whatever pay any premium offered by the Highland and Agricultural Society until he has been informed that the awards are in order and has received the Grant from the Highland and Agricultural Society.*

11. RENEWAL OF APPLICATION.—No application for renewal of a Money Grant to a District Society will be entertained until the expiration of *four years* from the termination of the last Grant.

12. DISPOSAL OF APPLICATIONS.—In disposing of applications for District Grants, the Directors of the Highland and Agricultural Society shall keep in view the length of interval that has elapsed since the expiration of the last Grant, giving priority to those District Societies which have been longest off the list.

DISTRICTS.

1. DEESIDE UNION.—*Convener*, Lieut.-Col. Innes of Learney, Torphins; *Joint-Secretaries*, John Davidson and John Cooper, Banchory. Granted 1903.
2. TURRIFF.—*Convener*, James Beaton, Aspen Bank, Turriff; *Secretary*, R. Cruickshank, Claymires, Turriff. Granted 1903.
3. MARNOCH AND CORNHILL.—*Convener*, James O. Morrison of Culvie, Tipperty, Banff; *Secretary*, Douglas B. Leask, North of Scotland Bank, Aberchirder. Granted 1903.
4. KIRKINTILLOCH.—*Convener*, Alex. Park, 175 Hope Street, Glasgow; *Secretary*, Andrew Matson, National Bank, Kirkintilloch. Granted 1903.
5. ARDOCH. — *Convener*, W. A. Wedderspoon, Carsbreck, Blackford; *Secretary*, John Maxton, Rhynd, Braco. Granted 1903.

6. EASTERN DISTRICT OF STIRLINGSHIRE.—*Convener*, Thomas D. Wallace, Callendar Park, Falkirk; *Secretary*, James Learmonth, 10 Newmarket Street, Falkirk. Granted 1903.
7. CASTLE DOUGLAS. — *Convener*, John M'Kie of Bargaly, Ernespie, Castle Douglas; *Secretary*, Malcolm M'L. Harper, British Linen Co. Bank, Castle Douglas. Granted 1902. (In abeyance in 1903 on account of the Dumfries Show.)
8. UNITED BANFFSHIRE.—*Convener*, William MacIntosh, Factor, Banff; *Secretary*, John A. Badenoch, Accountant, Banff. Granted 1905.
9. CAITHNESS. — *Convener*, E. W. Horne, Stirkoke, Wick; *Secretary*, George Harrold, Accountant, Wick. Granted 1905.
10. ANNANDALE UNION.—*Convener*, William Roddick, Banker, Annan; *Secretary*, J. R. Byers, Royal Bank Buildings, Lockerbie. Granted 1905.
11. MORAYSHIRE.—*Convener*, Colonel C. J. Johnston of Lesmurdie, Elgin; *Secretary*, W. Rose Black, Town and County Bank, Elgin. Granted 1905.
12. ANGUS.—*Convener*, J. G. Soutar, West Hall, Dundee; *Secretary*, James Kydd, 86 High Street, Arbroath. Granted 1905.
13. SPEY, AVEN, AND FIDDOCHSIDE.—*Convener*, Sir George Macpherson Grant of Ballindalloch, Bart.; *Secretary*, Robert Dick Stuart, Seafield Square, Rothes. Granted 1905.
14. WESTERN DISTRICT OF FIFE.—*Convener*, James Millar, Waulkmill, Charlestown; *Secretary*, Robert Husband, 1 Douglas Street, Dunfermline. Granted 1905.
15. DALBEATTIE. — *Convener*, W. J. H. Maxwell of Munches, Dalbeattie; *Secretary*, J. E. Milligan, Solicitor, Dalbeattie. Granted 1905.
16. BLACK ISLE.—*Convener*, Geoffrey A. St Quintin, Kincurdy, Fortrose; *Secretary*, Allan MacDonald, Bank Agent, Fortrose. Granted 1904. (In abeyance in 1905 on account of the Joint Show.)
17. FORTH. — *Convener*, David M'Culloch, The Inn, Forth; *Secretary*, James Barrie of Mossplat, Carstairs. Granted 1904. (In abeyance in 1905 on account of the Glasgow Show.)
18. INVERNESS-SHIRE.—*Convener*, J. Huntly Macdonald, Charleston, Inverness; *Secretary*, D. Gray, 36 Union Street, Inverness. Granted 1903. (In abeyance in 1903. Grant given to the Joint Show.) (In abeyance in 1906. Overlooked to award Grant.)
19. MAR.—*Convener*, Charles Rennie, West Fintray, Kintore; *Secretary*, Neil Smith, Blackburn, Kinellar. Granted 1907.
20. KINGLASSIE. — *Convener*, James Porter, Prinlaws House, Leslie; *Secretary*, Alexander Wallace, Solicitor, Kirkcaldy. Granted 1907.
21. WEST LINTON.—*Convener*, John H. Forbes of Medwyn, West Linton; *Secretary*, F. W. Dyson, Chapelhill, Peebles. Granted 1907.
22. DUNBLANE.—*Convener*, A. H. Anderson, Kippendavie Estate Office, Dunblane; *Secretary*, James Barty, Solicitor, Dunblane. Granted 1906.
23. KINCARDINESHIRE.—*Convener*, Alexander Milne, Newtonhill Farm, Stonehaven; *Secretary*, A. B. Annandale, Stonehaven. Granted 1904.
24. BUCHLYVIE AND GARTMORE. — *Convener*, Paul Hendry, Gartmore, Port of Menteith; *Secretary*, Daniel Fisher, Garchel, Buchlyvie. Granted 1904.
25. PERTHSHIRE.—*Convener*, John Graham, jun., Tippermallo, Methven; *Secretary*, John F. Smith, Eastfield, Bridge of Earn. Granted 1903. (In abeyance in 1904 on account of the Perth Show.)
26. CARRICK.—*Convener*, Alex. Cross of Knockdon, 19 Hope Street, Glasgow; *Joint-Secretaries*, David Brown and Charles W. Brown, Royal Bank, Maybole. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)

27. Cumnock.—*Convener*, James Clark, Crossflatt, Muirkirk; *Secretary*, David Stevenson, Changue, Cumnock. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)
28. Upper Ward of Lanarkshire.—*Convener*, John Morton, Whelphill, Abington, Lanark; *Secretary*, W. D. Brown, Fernielea, Lanark. Granted 1903. (In abeyance in 1905 on account of the Glasgow Show.)
29. Aberdour.—*Convener*, Alex. Lovie, Nether Boyndlie, Fraserburgh; *Secretary*, William Chapman, Woodhead, New Aberdour. Granted 1906.
30. Royal Northern.—*Convener*, George J. Walker, Hillside House, Portlethen; *Secretary*, Robert R. Ross, Balmoral Buildings, 67 Green, Aberdeen. Granted 1906.
31. Nether Lorn.—*Convener*, Norman W. Weir, Tighantruish, Oban; *Secretary*, Alexander Duff, Estate Office, Kilbrandon, Oban. Granted 1906.
32. New Monkland.—*Convener*, John W. Findlay, 4 Bank Street, Airdrie; *Secretary*, James Eglinton, National Bank, Airdrie. Granted 1904. (In abeyance in 1905 on account of the Glasgow Show.) (Medals and Grant awarded in 1906.)
33. West Teviotdale.—*Convener*, James Elliot, Flex, Hawick; *Secretary*, . Granted 1903. (In abeyance in 1906 on account of the Peebles Show.)
34. Dalkeith.—*Convener*, James Cook, Arniston, Gorebridge; *Secretary*, T. Watson Dods, Auctioneer, Dalkeith. Granted 1905. (In abeyance in 1907 on account of the Edinburgh Show.)
35. West Lothian.—*Convener*, Marquis of Linlithgow; *Secretary*, Archibald Cochrane, Trinlaymire, Linlithgowshire. Granted 1905. (In abeyance in 1907 on account of the Edinburgh Show.)

In 1907.

Nos. 1, 2, 3, 4, 5, 6, and 7 are in competition for the last year.

Nos. 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18 are in competition for the second year.

Nos. 19, 20, and 21 are in competition for the first year.

Nos. 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, and 33 compete for local Premiums.

Nos. 34 and 35 are in abeyance on account of the Edinburgh Show.

Section 2.—GRANTS TO HORSE ASSOCIATIONS, &c., FOR STALLIONS FOR AGRICULTURAL PURPOSES.

1. Horses—Limit of Grant, £210.—The Highland and Agricultural Society will make Grants to Horse Associations and other Societies in different districts engaging Stallions for agricultural purposes. The total sum expended by the Highland and Agricultural Society in such Grants shall not exceed the sum of £210 in any one year.

2. Grant to each, £15.—The portion of the Grant to any one Horse Association, &c., shall not exceed the sum of £15 in any one year.

3. Continuance of Grant Three Years—Intermediate Year.—The Grant shall continue for three alternate years, provided always that the Horse Association or Society shall, in the two intermediate years, offer at least a sum equal in amount to that granted by the Highland and Agricultural Society for the hire of a Horse in connection with the Association or Society to whom the Grant is made.

4. Penalty for not engaging Horse.—In the event of a Horse not being engaged in any one year while the provisions of the Grant are

in force, the Grant made by the Highland and Agricultural Society will cease.

5. Rules 9 (Reports), 10 (Time of Payment), 11 (Renewal of Grant), and 12 (Disposal of Applications) applicable to Section 1, shall be applicable to Section 2.

DISTRICTS.

1. Gigha.—*Convener*, W. J. Yorke Scarlett of Gigha; *Secretary*, W. W. Philip, Estate Office, Gigha. Granted 1903.
2. Cumbernauld, Kilsyth, and Kirkintilloch.—*Convener*, Alexander Whitelaw of Gartshore, Kirkintilloch; *Secretary*, Alexander Park, 175 Hope Street, Glasgow. Granted 1903.
3. Gatehouse.—*Convener and Secretary*, D. Y. Veitch, Low Creoch, Gatehouse. Granted 1903.
4. Scone, Strathord, and Murthly.—*Convener*, W. S. Ferguson, Pictstonhill, Perth; *Secretary*, James Stewart, Friarton, Perth. Granted 1903.
5. Kelso District Clydesdale Horse Society.—*Convener*, W. G. Hogarth, Linton, Bankhead, Kelso; *Secretary*, A. Riddell, 3 Square, Kelso. Granted 1903.
6. Caithness Horse-Breeding Association.—*Convener and Secretary*, Robert Morris, Reiss Lodge, Wick. Granted 1905.
7. Moray Horse-Breeding Association.—*Convener*, Andrew B. Leitch, Inchstelly, Forres; *Secretary*, H. M. S. Mackay, Bank Agent, Elgin. Granted 1905.
8. Carse and Dundee District Stallion Society.—*Convener*, Captain Clayhills Henderson of Invergowrie, R.N., Dundee; *Secretary*, Alex. Anderson, Berryhill, Dundee. Granted 1905.
9. Selkirk and Galashiels.—*Convener*, Thomas D. Connochie, M.R.C.V.S., Galashiels; *Secretary*, D. C. Finlay, National Bank House, Galashiels. Granted 1905.
10. Buchlyvie and Vale of Menteith Horse-Breeding Society.—*Convener*, Stephen Mitchell of Boquhan, Kippen Station; *Secretary*, John Drysdale, Arngibbon, Port of Menteith Station. Granted 1905.
11. Cowal.—*Convener*, John M'Alister, Ardyne, Toward; *Secretary*, Neil Nicolson, Auchgoyle Millhouse, Tighnabruaich. Granted 1907.
12. Kintyre.—*Convener*, John Gemmell, Dalrioch, Campbeltown; *Secretary*, G. Erskine Inglis, Estates Office, Campbeltown. Granted 1907.
13. Glenesk and Lethnot.—*Convener and Secretary*, J. Crowe, Tarfside, Lochlee, Edzell. Granted 1907.
14. Western District of Mid-Lothian.—*Convener*, J. E. Stoddart of Howden, Mid-Calder; *Secretary*, J. T. Mungle, Bank House, West Calder. Granted 1907.
15. Ross-shire.—*Convener*, Andrew Mackenzie of Dalmore, Alness; *Secretary*, John Ross, Meikle Tarrel, Fearn. Granted 1907.
16. Insch and Garioch Horse-Breeding Society.—*Convener*, C. E. N. Leith Hay of Leith Hall, Inverurie; *Secretary*, George A. Bruce, Inschfield, Insch, Aberdeen. Granted 1904.
17. Upper Donside.—*Convener*, W. D. Ellis, Kinclune, Towie; *Secretary*, John Milne, Town and County Bank, Kildrummy. Granted 1904.
18. Lammermoor Pastoral.—*Convener*, George G. Turnbull of Abbey St Bathans, Grant's House; *Secretary*, Thos. Stephenson, Duns. Granted 1904.

19. UPPER NITHSDALE HORSE SOCIETY.—*Convener*, D. M. MacRae, Stenhouse, Thornhill; *Secretary*, David Paterson, Solicitor, Thornhill. Granted 1904.
20. CENTRAL BANFFSHIRE. — *Convener*, James M'William, Stoneytown, Boharm; *Secretary*, George Donald, Ladyhill, Keith. Granted 1906.
21. DUMFRIES AND DISTRICT CLYDESDALE HORSE-BREEDING SOCIETY.—*Convener*, James Brown, Burnside, Hollywood; *Secretary*, George Will, Crichton Farm, Dumfries. Granted 1906.
22. BIGGAR AND PEEBLES CLYDESDALE HORSE-BREEDING SOCIETY.—*Convener*, William Noble, Lochurd, Dolphinton; *Secretary*, R. G. Murray, Spittal, Biggar. Granted 1906.
23. STRATHEARN. — *Convener*, Sir Charles Dundas of Dunira, Bart., Comrie; *Secretary*, A. Anderson Connon, Solicitor, Crieff. Granted 1906.

In 1907.

Nos. 1, 2, 3, 4, and 5 are in competition for the last year.
Nos. 6, 7, 8, 9, and 10 are in competition for the second year.
Nos. 11, 12, 13, 14, and 15 are in competition for the first year.
Nos. 16, 17, 18, 19, 20, 21, 22, and 23 compete for local premiums.

SPECIAL GRANTS.

£40 to the Highland Home Industries Association.—*Joint-Secretaries*, Miss Muriel K. Mackenzie, Conon House, Conon Bridge, Ross-shire, and Miss Jessie D. C. Ross, Riverfield, Inverness. Granted 1895. (Did not hold a Competition in 1899 or 1900.)

£20 to the Ayrshire Agricultural Association, to be competed for at the Dairy Produce Show at Kilmarnock.—*Convener*, The Hon. G. R. Vernon, Auchans House, Kilmarnock; *Secretary*, John Howie, 58 Alloway Street, Ayr. Granted 1872.

£5 to Shetland Agricultural Society.—*Convener*, J. M. Goudie, Lerwick; *Secretary*, James J. Brown, Lerwick. Granted 1893. (In abeyance in 1907.)

£3 to Orkney.—*Convener and Secretary*, James Johnston, Orphir House, Orphir, Orkney. Granted 1883.

£3 to East Mainland, Orkney.—*Convener*, Alfred Reid, Braebuster, Kirkwall; *Secretary*, John Clouston, Graemeshall, Holm, by Kirkwall. Granted 1898.

£3 to West Mainland, Orkney.—*Convener*, W. G. T. Watt, Skaill House, Stromness; *Secretary*, John Gibson, Seatter, Stromness, Orkney. Granted 1900. (In abeyance in 1907.)

£3 to Sanday, Orkney.—*Convener*, W. Cowper Ward, Scar House, Sanday, Orkney; *Secretary*, K. H. Sinclair, Kettletoft, Sanday, Orkney. Granted 1902.

£3 to Rousay, Orkney.—*Convener*, H. H. Horne, Trumland Farm, Rousay, Orkney; *Secretary*, Allan Gibson, Myres, Sourin, Rousay. Granted 1903. (In abeyance in 1907.)

£3 to South Ronaldshay and Burray, Orkney.—*Convener*, Arch. Allan, St Margaret's Hope, Orkney; *Joint-Secretaries*, William Cromarty, Widewall House, and Robert Cromarty, Sandwick House, St Margaret's Hope, Orkney. Granted 1904. (In abeyance in 1907.)

North of Scotland Root, Vegetable, &c.—*Convener*, John Maitland, East Balhalgardy, Inverurie; *Secretary*, James Eddie, F.R.H.S., Inverurie. 4 Medals. Granted 1899.

£25 to Northern Counties Joint Show at Dingwall.—*Secretary*, James Cumming, Dingwall.

MEDALS IN AID OF PREMIUMS GIVEN BY LOCAL SOCIETIES.

The Society, being anxious to co-operate with local Associations, will give a limited number of Silver Medals annually to Societies, not on the list of Cattle, Horse, or Sheep Premiums, in addition to the Money Premiums awarded in the Districts for—

1. Best Bull, Cow, or Heifer of any pure breed included in Section 1.
2. Best Stallion, or Mare of any pure breed included in Section 1.
3. Best Tup, or Pen of Ewes of any pure breed included in Section 1.
4. Best Boar, Sow, or Breeding-Pig of any pure breed.
5. Best Pens of Poultry.
6. Best Sample of any variety of Wool.
7. Best Sample of any variety of Seeds.
8. Best managed Farm.
9. Best managed Green Crop.
10. Best managed Hay Crop.
11. Best managed Dairy.
12. Best Sweet-Milk Cheese.
13. Best Cured Butter.
14. Best Fresh Butter.
15. Best collection of Roots.
16. Best kept Fences.
17. Male Farm Servant who has been longest in the same service, and who has proved himself most efficient in his duties, and to have invariably treated the animals under his charge with kindness.
18. Female Servant in charge of Dairy and Poultry who has been longest in the same service, and who has proved herself most efficient in her duties, and to have invariably treated the animals under her charge with kindness.
19. Best Sheep-Shearer.
20. Most expert Hedge-Cutter.
21. Most expert Labourer at Draining.
22. Best Maker of Oat-Cakes.

It is left to the local Society to choose out of the foregoing list the classes for which the Medals are to be competed.

The Medals are granted for two years, and lapse if not awarded in those years.

No Society shall receive more than two Medals for two years.

Aberdeenshire.

1. Cromar, Upper Dee and Donside. — *Convener*, W. H. Collman of Deskrie, Tillypronie House, Tarland; *Secretary*, William Anderson, Hopewell, Tarland. 2 Medals. 1907.
2. Inverurie.—*Convener*, John Tait, Crichie, Inverurie; *Secretary*, John Strachan, Albert Street, Inverurie. 2 Medals. 1907.
3. Vale of Alford.—*Convener*, Wm. A. Mitchell, Auchnagathel, Whitehouse; *Secretary*, A. Imlach, Valeview, Alford. 2 Medals. 1907.

Argyllshire.

4. Gigha.—*Convener*, W. J. Yorke Scarlett of Gigha; *Secretary*, W. W. Philip, Estate Office, Gigha. 2 Medals. 1906.
5. Tarbert Branch of Argyll Cattle Show.—*Convener*, G. P. Campbell, Stonefield, Tarbert, Lochfyne; *Secretary*, James M'Dougall, Burnside, Tarbert, Lochfyne. Medal. 1906. (3 Medals in 1907.)

Ayrshire.

6. BEITH. — *Convener*, David Kerr, Marshalland, Beith; *Secretary*, Matthew Gilmour, Clydesdale Bank, Beith. 2 Medals. 1907.

7. DALRY.—*Convener*, Andrew C. Patrick, Greenbank, Dalry; *Secretary*, James Allan, West Kirkland, Dalry. 2 Medals. 1906.

8. FENWICK.—*Convener*, James Dunlop, Gree Farm, Fenwick; *Secretary*, James Dunlop, Midland, Fenwick. 2 Medals. 1906.

9. MUIRKIRK. — *Convener*, James Hamilton, Nether Wellwood, Muirkirk; *Secretary*, Thos. Jackson, Clydesdale Bank, Muirkirk. 2 Medals. 1907.

Banffshire.

10. NORTHERN SEEDS AND ROOTS ASSOCIATION. — *Convener*, Robert Turner, Cairnton, Boyndie; *Secretary*, James Young, 28 Seafield Street, Portsoy. 2 Medals. 1906.

Forfarshire.

11. KIRRIEMUIR. — *Convener*, John Duncan, Muirhouses, Kirriemuir; *Secretary*, Stewart Lindsay, Crawford House, Kirriemuir. 2 Medals. 1807.

Stewartry of Kirkcudbright.

12. CARSPHAIRN. — *Convener and Secretary*, Charles E. Stewart, Carsphairn, Galloway. 2 Medals. 1907.

13. DALRY HORTICULTURAL AND POULTRY.—*Convener*, John M'Adam, Dalry, Galloway; *Secretary*, James Stewart, Dalry, Galloway. 2 Medals. 1907.

14. GALLOWAY DAIRY PRODUCE SHOW.—*Convener*, Sir Mark J. M'Taggart Stewart, Bart., Ardwell; *Secretary*, Patrick Gifford, Solicitor, Castle-Douglas. 2 Medals. 1907.

Lanarkshire.

15. CARNWATH. — *Convener and Secretary*, Thomas Ballantyne, Spittal, Carnwath. 2 Medals. 1907.

16. SHETTLESTON AND CHRYSTON.—*Convener*, A. G. Dippie, Longmuir, Bargeddie; *Secretary*, John Watson, 24 St Vincent Place, Glasgow. 2 Medals. 1907.

17. SHOTTS, CALDERWATERHEAD.—*Convener*, John Loudoun, Stane, Shotts; *Secretary*, Alex. Waddell, 32 and 34 Moir Street, Glasgow. 2 Medals. 1907.

Perthshire

18. MIDDLE DISTRICT OF ATHOLL AND TULLYMET.—*Convener*, James J. Gillespie, Perth; *Secretary*, C. Scott, Dowally Farm, Ballinluig. 2 Medals. 1907.

Renfrewshire.

19. CATHCART AND EASTWOOD.—*Convener*, J. Campbell Murray, Hoggs Castle, Pollokshields; *Secretary*, Robert Mearns, Auldfield Place, Pollokshaws. 2 Medals. 1907.

Selkirkshire.

20. YARROW AND ETTRICK.—*Convener*, J. V. Lindsay, Whitehope, Selkirk; *Joint-Secretaries*, Walter Barrie and John Johnston, Sundhope, Selkirk. 2 Medals. 1907.

Applications from other Districts must be lodged with the Secretary of the Society *by 1st November next.*

RULES OF COMPETITION.

1. All Competitions must be at the instance of a local Society.
2. The classes for which Medals are granted must be in accordance with the list at page 49. The Committee shall select the classes, and specify them in the Report.
3. A Committee of Management shall be appointed, and the Convener of the Committee must be a Member of the Highland and Agricultural Society.
4. The Money Premiums given in the District must be not less than £2 for each Medal claimed.
5. The Medal for Sheep-Shearing shall always accompany the highest Money Premium.
6. There must not be fewer than three competitors in all the classes.
7. Regarding Reports, despatch of Medals, and application for renewal of Grant, Rules 9, 10, and 11, Section I., will apply.
8. When a grant of Medals has expired, the District cannot apply again for Medals for two years.

PLOUGHING COMPETITIONS.

The Minor Silver Medal will be given to the winner of the first Premium at Ploughing Competitions, provided a Report in the following terms is made to the Secretary, within one month of the Competition, by a Member of the Society. Forms of Report to be had on application:—

FORM OF REPORT.

I, of , Member of the Highland and Agricultural Society, hereby certify that I attended the Ploughing Match of the Association at in the county of on the when ploughs competed; of land were assigned to each, and hours were allowed for the execution of the work. The sum of £ was awarded in the following proportions, viz.:—

[*Here enumerate the names and designations of successful Competitors.*]

RULES OF COMPETITION.

1. All Matches must be at the instance of a local Society or Ploughing Association, and no Match at the instance of an individual, or confined to the tenants of one estate, will be recognised.
2. The title of such Society or Association, together with the name and address of its Secretary, must be registered with the Secretary of the Highland and Agricultural Society, 3 George IV. Bridge, Edinburgh.
3. Not more than one Match in the same season can take place within the bounds of the same Society or Association.
4. All reports must be lodged within one month of the date of the Match, and certified by a Member of the Highland and Agricultural Society who was present at it.
5. A Member can only report one Match; and a Ploughman cannot carry more than three Medals in the same season.
6. To warrant the grant of the Medal there must have been twelve ploughs in Competition, and not less than Three Pounds awarded in Prizes by the local Society. The Medal to be given to the winner of the first prize.

7. The Local Committee or Society may, if they desire, arrange to let each ploughman have one person to guide the horses for the first two and the last two furrows, but in no case shall ploughmen receive any other assistance, and their work must not be set up nor touched by others. Attention should be given to the firmness and sufficiency of the work below more than to its neatness above the surface.

8. The Local Committee is required to fix the time to be allowed for ploughing the portion of land, and they are recommended that the time be at the rate of not more than ten hours per imperial acre on light land, and fourteen hours on heavy or stony land.

CLASS III.

COTTAGES AND GARDENS.

The following Premiums are offered for Competition in the Parishes after mentioned.

The Premiums are granted for two years.

PREMIUMS FOR BEST KEPT COTTAGES AND GARDENS.

1. Best kept Cottage	£1 0 0
Second best	0 10 0
2. Best kept Cottage Garden	1 0 0
Second best	0 10 0

RULES OF COMPETITION.

1. Competitions may take place in the different parishes for Cottages and Gardens, or for either separately.

2. The occupiers of Lodges at Gentlemen's Approach Gates and Gardeners' Houses are excluded, as well as others whom the Committee consider, from their position, not to be entitled to compete. The inspection must be completed by the 1st of October. In making the inspection, the Conveners may take the assistance of any competent judges.

3. It is left to the Committee of the District to regulate the maximum annual rent of the Cottages, which may, with the garden, be from £5 to £7.

4. To warrant the award of full Premiums, there must not be fewer than three competitors in each class. If there are less than three competitors in each class, only half Premium will be awarded.

5. A person who has gained the highest Premium cannot compete again.

6. If the Cottage is occupied by the proprietor, the roof must be in good repair; if the roof is thatch, it must be in good repair, though in the occupation of a tenant. The interior and external conveniences must be clean and orderly; the windows must be free of broken glass, clean, and affording the means of ventilation. Dunghills, and all other nuisances, must be removed from the front and gables. In awarding the Cottage Premiums, preference will be given to Competitors who, in addition to the above requisites, have displayed the greatest taste in ornamenting the exterior of their houses, and the ground in front and at the gables.

7. In estimating the claims for the Garden Premiums, the judges should have in view—the sufficiency and neatness of the fences and walks; the cleanness of the ground; the quality and choice of the crops; and the general productiveness of the garden.

8. Reports, stating the number of Competitors, the names of successful parties, and the nature of the exertions which have been made by them, must be lodged with the Secretary of the Highland and Agricultural Society *on or before the 1st November next.*

9. When a grant of Money has expired, the District cannot apply again for aid for four years.

Parishes desirous of these Premiums must lodge applications with the Secretary *on or before the 1st November next.*

MEDALS FOR COTTAGES AND GARDENS OR GARDEN PRODUCE AND BEE-KEEPING.

1. The Society will give annually one or two Minor Silver Medals to a limited number of local Associations or individuals, who establish Competitions and Premiums for Cottages, Gardens, Garden Produce, or Bee-Keeping. The Medals will be granted for two years.

2. The Medals may be offered in any two of the following sections, *but under no circumstances will the two Medals be given in one of the sections:—*

(1) Best kept Cottage or best kept Cottage and Garden. (One Medal only.)

(2) Best kept Garden. (One Medal only.)

(3) Best Collection of Garden Produce—Flowers excluded. (One Medal only.)

(4) Honey. (One Medal only.)

3. The annual value of each Cottage, with the ground occupied in the parish by a Competitor, must not exceed £15. The occupiers of Lodges at Gentlemen's Approach Gates, and Gardeners in the employment of others, are not entitled to compete.

4. If Competition takes place for Garden Produce, such produce must be *bona fide* grown in the Exhibitor's Garden. He will not be allowed to make up a collection from any other Garden. The produce must consist of Vegetables, or Vegetables and Fruit (not Fruit alone). Flowers are excluded.

5. The Honey must be the produce of the Exhibitor's own Hives.

6. To warrant the award of a Medal, there must not be fewer than three Competitors.

7. Blank forms for Reports of Competitions will be furnished to the Secretaries of the different Districts. These must, in all details, be completed and lodged with the Secretary of the Highland and Agricultural Society as soon as possible after the Show, and in no case later than *1st November*, for the approval of the Directors, against whose decisions there shall be no appeal.

8. When a grant of Medals has expired, the District cannot apply again for aid for two years, and if no competition takes place in a District for two years the grant expires.

9 Applications for these Medals must be made *before 1st November next.*

Aberdeenshire.

1. KINELLAR.—*Convener*, P. Greig, Willow Cottage, Blackburn, Kinellar; *Secretary*, Neil Smith, Blackburn, Kinellar. 2 Medals. 1907.

Ayrshire.

2. CUMNOCK.—*Convener*, William Hill, Hartfield, Cumnock; *Secretary*, D. C. Smith, Square, Cunnock. 2 Medals. 1906.

Dumbarton.

3. VALE OF LEVEN AND DUMBARTON.—*Convener*, James Miller, 17 George Street, Bonhill, Alexandria; *Secretary*, Archd. M'Dougall, Church Street, Alexandria. 2 Medals. 1907.

Edinburghshire.

4. CURRIE.—*Convener*, Thos. B Clark, Newmills, Balerno; *Secretary*, James Millar, Currie. 2 Medals. 1905. (No Show in 1906.)

Haddingtonshire.

5. EAST LOTHIAN.—*Convener*, W. Murray, Solicitor, Haddington; *Secretary*, Thos. Cruickshank, City Bank Chambers, Haddington. 2 Medals. 1906.

Stewartry of Kirkcudbright.

6. KIRKPATRICK-DURHAM.—*Convener*, Dr George Robertson, Kirkpatrick-Durham; *Secretary*, David C. G. Johnston, Kirkpatrick-Durham, Dalbeattie. 2 Medals. 1906.
7. SOUTH OF SCOTLAND BEE-KEEPERS.—*Convener*, John Ross, Barkerland House, Dumfries; *Secretary*, Q. Aird, Hardgate Schoolhouse, Dalbeattie. 2 Medals. 1906.

Lanarkshire.

8. "SIR JOHN STIRLING MAXWELL" GARDENS.—*Convener*, ; *Secretary*, John R. Bain, 9 Holmhead Place, Cathcart. 2 Medals. 1907.

Nairnshire.

9. AULDEARN AND ARDCLACH.—*Convener*, Sir Fred. G. Dunbar of Boath, Bart., Auchnacloich, Nairn; *Secretaries*, A. J. Mackintosh and Angus Bain, Auldearn. 2 Medals. 1907.

Perthshire.

10. KILMADOCK AND KINCARDINE IN MENTEITH.—*Convener*, James Smith, Deanston House, Garden; *Secretary*, James Forbes, 51 Main Street, Donne. 2 Medals. 1907.
11. MENZIES.—*Convener*, Rev. R. G. Dunbar, The Manse, Weem, Aberfeldy; *Secretary*, James Adamson, The Schoolhouse, Dull, Aberfeldy. 2 Medals. 1906. (No award in 1906.)

Stirlingshire.

12. POLMONT.—*Convener*, David Mitchell, Millfield, Polmont; *Secretary*, Hugh Davidson, Polmont Kirk, Polmont. 2 Medals. 1907.

FIRST EDITION.]

NOTE.—From 4th till 12th July all communications should be addressed to the "Secretary's Office, Showyard, Edinburgh."

Address for Telegrams—"SOCIETY," EDINBURGH.

Subject to Orders issued by the Board of Agriculture

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

GENERAL SHOW OF STOCK AND IMPLEMENTS,
PRESTONFIELD, EDINBURGH,

ON 9TH, 10TH, 11TH, AND 12TH JULY 1907.

LAST DAYS OF ENTRY.

IMPLEMENTS AND OTHER ARTICLES—Monday, 6th May.
STOCK, POULTRY, AND DAIRY PRODUCE—Friday, 31st May.

No Entry at ordinary fees taken later than those which are received at the Society's Office, Edinburgh, by first post, or 10 o'clock, on Friday morning (31st May). Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (5th June), at the Society's Office, Edinburgh, at 10 o'clock.

President of the Society.
THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T.

Chairman of the Board of Directors.
DAVID WILSON, ESQ., D.Sc., OF CARBETH.

Convener of the Local Committee.
SIR JAMES H. GIBSON-CRAIG OF RICCARTON, BART.

The District connected with the Show comprises the Counties of Edinburgh, Haddington, and Linlithgow.

REGULATIONS.

GENERAL CONDITIONS.

1. The Competition, except where otherwise stated in the Premium List, is open to Exhibitors from all parts of the United Kingdom.

2. Every Lot must be intimated by a Certificate of Entry, lodged with the Secretary *not later than Monday, 6th May, for Implements and other*

Articles, and Friday, 31st May, for Stock, Poultry, and Dairy Produce. No Entry taken at ordinary fees later than those which are received at the Society's Office by first post, or 10 o'clock, on Friday morning, 31st May. Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (5th June), at the Society's Office, Edinburgh, at 10 o'clock. Printed forms of Entry will be issued on application to the Secretary, No. 3 George IV. Bridge, Edinburgh. Admission Orders for Exhibits and Attendants will be forwarded to Exhibitors, by post, previous to the Show.

Licences for moving Stock.

3. This Premium List is published and the Show will be held subject to any Orders that may be issued by the Board of Agriculture or Local Authorities. Any licences that may be required for the movement of Stock into or away from the Show must be obtained by Exhibitors. For licences for admission of Stock to the Show, application should be made to David Lyon, Esq., Depute Town Clerk, Edinburgh.

4. No Entry can be received or recorded unless it is accompanied by the necessary fees, and complies fully with the Regulations in the Premium List.

Particulars of Entries.

5. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor. The Society shall have power at any time to call upon an Exhibitor to furnish proof of the correctness of any statement in his entry.

6. The name of the Breeder, if known, must be given, and if the Breeder is not known, a declaration to that effect, signed by the Exhibitor, must be made on the Entry Schedule, and no pedigree will be entered in the Catalogue when the Breeder is unknown.

No substitution of Animals.

7. All animals, except calves, foals, and lambs shown with their dams, must be entered in the classes applicable to them, and cannot be withdrawn after entry, or other animals be substituted in their place.

One Class only.

8. For prizes given by the Society, no animal shall be allowed to compete in more than one class, or to compete in any class except that prescribed for animals of its pedigree and description; but this Rule does not apply to the Jumping and Driving Competitions.

Ownership.

9. All stock exhibited at the Show, except where otherwise stated in the Premium List, must be from the time of entry to the date of the competition the *bona fide* property of the Exhibitor in whose name it is entered.

Responsibility for Entries.

10. Exhibitors are alone responsible for the accuracy and eligibility of their entries. The recording of an entry or the admission of the exhibit to the Showyard will not relieve the Exhibitor of this responsibility. The entry-fee paid for an animal entered in a class for which it is not eligible is not returnable.

Society not liable.

11. The Society shall not be liable for any loss or damage which Stock, Poultry, Dairy Produce, Implements, or other articles may sustain at the Show, or in transit.

Disqualified Exhibitors.

12. The Society reserve to themselves the right of refusing, cancelling, or prohibiting the exhibition of entries from any person who, after 1st January 1904, has been expelled from the membership of any Agricultural or Dairy Society, or who may have been prohibited, suspended, or disqualified from making entries or exhibiting at the Show or Shows of any Agricultural or Dairy Society or Breed Society in consequence of having attempted to obtain a Prize by giving a false Certificate, or by other unfair means, or who is under exclusion from any Breed Society for fraudulent practices.

Animal disqualified.

13. When an animal has previously been disqualified by the decision of any Agricultural Society in the United Kingdom, such disqualification shall attach, if the Exhibitor, being aware of the disqualification, fail to

state it, and the grounds thereof, in his entry, to enable the Directors to judge of its validity.

Tampering with Animals.

14. Any artificial contrivance or device of any description found on or proved to have been used on an animal, either for preventing the flow of milk or for any other improper purpose, will disqualify that animal from being awarded a Premium, and the Owner of said animal may be prohibited from again entering Stock for any of the Society's General Shows, for such a period as the Directors may see fit.

Rejecting Entries.

15. The Society further reserve to themselves the right of refusing any entries they may think fit to exclude, or to cancel any entry made, or to prohibit the exhibition of any entry.

Control of Exhibits.

16. Stock entered for competition, and actually in the Show, is subject to the control and under the orders of the Stewards, Secretary, and other Show officials of the Society, and such stock may not be withdrawn from competition without the consent of the Stewards or Secretary.

Improper Conduct.

17. Persons making insulting remarks to, or in any way unduly interfering with, the Judges, Stewards, or other officials while in the performance of their duties, and all Exhibitors or others in charge of stock while in the judging rings refusing to accept or display tickets, rosettes, &c., awarded by the Judges, and handed to them by the Stewards or other officials, or tearing up tickets, rosettes, &c., so awarded and handed to them, or of any similar conduct, shall be considered guilty of misconduct, and shall be dealt with under these rules.

Subject to Orders.

18. All persons in charge of stock or other exhibits, and all persons admitted into the Showyard, shall be subject to the rules of the Society, and shall obey the orders of the Stewards, Secretary, and other officials of the Society. Exhibitors shall be answerable for the conduct of their servants or representatives.

Power of Officials.

19. The Stewards and other officials have power to enforce the regulations of the Society in their different departments.

Protests.

20. A protest having reference to exhibits at the Show may be lodged by any person having interest. Protests having reference to competitions which take place on the first day of the Show must be lodged in writing with the Secretary at his Office in the Showyard not later than 9 A.M. on Wednesday, the second day of the Show, and parties must be in attendance at the Secretary's Office in the Showyard at 9.30 A.M. that day, when protests may be disposed of. Protests relating to competitions taking place after the first day of the Show must be lodged before 5 P.M. on the day on which the particular exhibition takes place. Each protest must state specifically the grounds of objection, and must be accompanied by a deposit of £2, 2s., which deposit may, if the objection be proved frivolous to the satisfaction of the Directors, be forfeited. Protests may be lodged at any time by Directors, and in this case no deposit will be required. Protests will be heard and determined by the Directors.

Penalties for Offences.

21. The violation of any one of the regulations, or disobedience of the orders of the Directors, Stewards, Secretary, or other officials of the Society, shall render the offending person liable to the forfeiture of all premiums awarded to him, or of such a portion as the Directors may ordain, and also liable to be expelled from the membership of the Society, and disqualified from again, or for a certain number of years, exhibiting at the Shows of the Society, or to have his case disposed of by fine or otherwise as the Directors may determine.

Final Authority.

22. The decision of the Directors shall, in every matter arising at or in connection with the Show, be final; and every person present at the Show, whether as a Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have agreed to refer the subject-matter of such decision to the final determination of the Directors, to the exclusion of all Courts of Law.

Intimating Decisions. 23. All decisions under these rules may, along with the names and addresses of the persons against whom such decisions have been pronounced, be communicated by the Secretary of this Society to the Secretaries of all Agricultural or Dairy Societies holding open Shows in the said United Kingdom, and to the Secretaries of all Breed Societies in said United Kingdom, and may be published in the Annual Reports of this Society, and in such newspapers or journals as the Directors may determine; and every Exhibitor competing at the Show, and every person present at the Show, whether as a Director, Member of Committee, Steward, Judge, Exhibitor, Visitor, or otherwise, shall be deemed thereby to have consented to such communication and publication.

Former Winners. 24. An animal which has gained a first Premium, or which subsequently becomes entitled to a first Premium, at a General Show of the Society cannot again compete in the same class, notwithstanding any alteration in the heights stated for such class, but may be exhibited as Extra Stock.

Herd-books. 25. Shorthorn, Aberdeen-Angus, Galloway, and Highland cattle must be entered in the herd-books, or the Exhibitor must produce evidence that his animal is eligible to be entered therein.

Height of Horses. 26. All Horses or Ponies entered in classes in which a particular height is stated shall before being judged be measured with their shoes on. No subsequent measuring or alteration of shoes will be permitted.

Overfeeding. 27. Breeding Stock must not be shown in an improper state of fatness, and the Judges are requested not to award Premiums to overfed animals; and no Cattle or Sheep which after the age of twelve months have been exhibited as Fat Stock at any Show are eligible to compete in the Breeding Classes for the Society's Prizes.

Sires. 28. Aged Bulls and Stallions must have had produce, and, along with two-year-old Bulls, three-year-old Colts, and two-shear and aged Tups, have served within the twelve months immediately preceding the Show.

Cows. 29. Except as may be otherwise specially provided in this Premium List, cows of all breeds (other than Ayrshire) must have had a calf within nine months previous to the Show, and when exhibited must be in milk. Animals of any age that have had a calf must be shown as Cows.

In-calf Heifers. 30. Two-year-old Heifers of the Shorthorn, Aberdeen-Angus, and Galloway breeds, two-year-old Yeld Ayrshire Heifers, and three-year-old Highland Heifers, must be in calf when exhibited, and the Premiums will be withheld till birth be certified, which must be within 9 months after the Show.

Mares 31. A Mare entered in a class for "Mares with foal at foot" must have produced a foal after 1st January of the year of the Show, must have regularly nursed her own or another foal, and must have the foal with her in the Show. If the mare's own foal is alive it must be the foal shown with the mare. In the case of a Mare that has not foaled before the Show, or whose foal has died, she shall, if not in milk, be eligible without further entry to compete among the Yeld Mares. Agricultural Yeld Mares must produce a foal within 12 months from the first day of the Show. A Mare in a class for "Mares or Geldings" may or may not have had a foal in the year of the Show, but shall not have her foal exhibited with her, nor be in milk at the time of the Show.

Calves and Foals. *Calving and Foaling Certification.* 32. With reference to Regulation 30, birth of a live or full-time calf must be certified; and in regard to Regulation 31, birth of at least a nine months' foal; or in the case of the death of the dam, a Veterinary Surgeon's certificate must be produced certifying that at the time of death the animal was so far advanced with calf or foal that if it had lived it would have produced a calf or foal within the periods stated in Rules 30 and 31. Certificates of calving required by the foregoing Regulations must reach the office of the Secretary within ten months of the last day of the Show; foaling certificates within thirteen months of the last day of the Show. In default of this, the animal will be regarded as having failed to fulfil the Regulations, and the prize will therefore pass to the animal next in order of merit or be forfeited.

Special Prizes. 33. Except when otherwise provided, the awards of Special Prizes shall not be subject to the Regulations as to calving and foaling.

Payment of Prizes 34. The Premiums awarded, except those withheld till birth of calf or foal is certified, will be paid as soon after the Show as practicable, and, with the exception of the Tweeddale Gold Medal, Special Cups, and Medals, may be taken either in money or in plate.

Hunters. 35. In the classes for Hunters, Judges are empowered to transfer to the proper classes horses which, in regard to weight-carrying, are in their opinion entered in the wrong classes.

Soundness of Horses 36. Judges are particularly requested to satisfy themselves, as far as possible, regarding the soundness of all Horses before awarding the Prizes, and to avoid giving Prizes to animals showing symptoms of hereditary diseases. The Judges may consult the Society's Veterinary Surgeon if they deem it expedient. No protests on veterinary grounds will be received.

Ewes. 37. All Ewes must have reared lambs in the year of the Show; and Ewes of the Blackfaced and Cheviot breeds must be in milk, and have their lambs at foot.

Clipping. 38. Sheep must have been clipt bare after 1st January of the year of the Show, no part of the animal to be clipped prior to that date. This Rule does not apply to Cheviot sheep.

Sows. 39. Sows must have produced a litter of pigs in the year of the Show, prior to the opening day. Pigs must belong to the same litter, and be uncut.

Poultry. 40. In Poultry the Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show.

Railway Passes. 41. Railway Certificates for Stock and Implements are issued to Exhibitors before the Show along with their Tickets of Admission, one Certificate for the outward and another for the return journey being sufficient for each Exhibitor for any number of exhibits.

Admission of Stock. 42. Poultry and Stock will be admitted on Monday, the day before the opening of the Show, and, with the exception of Horses, must be in the Yard before 12 o'clock that night. Horses must be in before 8 o'clock on the morning of Tuesday, except those entered in classes for which other times for arrival are elsewhere stated in this List. Judging begins at 10 A.M. on Tuesday. Exhibited on Tuesday, Wednesday, Thursday, and Friday. Stock may be admitted on the Saturday preceding the Show, but only by sending two days' prior notice to the Secretary.

Parades. 43. Horses and Cattle must be paraded at the times stated in the Programme of the Show, and when required by the Stewards, and under their direction. In Parade, Horses must be ridden or led as provided in their respective classes. Prize and commended Cattle and Horses will receive two rosettes each, which must be attached to the head of the animal, one on each side. Attendants must be beside their animals *twenty minutes before the hour of Parade*, and be ready to proceed to the ring immediately on receiving the order of the Stewards. Infringement of this Rule, or failure of any attendant to obey the orders of the Society's officials, will render the Exhibitor liable to a fine of 20s. for each separate infringement or act of disobedience, and to the forfeiture of any or all of the Prizes awarded to him at this Show.

Responsibility of Exhibitors. 44. Exhibitors shall be answerable for all acts, whether committed by themselves, their servants, or others in charge of their Stock, and shall be responsible for the condition of their animals during the whole time they remain in the Showyard.

Moving from stalls. 45. No animal shall be taken out of its stall after 10 A.M. during the Show except by order of the Stewards, or with permission of the Secretary.

Washing Cattle. 46. Cattle shall not be taken out of their stalls to be washed after the Judging has been commenced. Cattle must not be washed beside the Judging Rings. Those infringing this Rule shall be liable to a fine of 10s.

Soaping prohibited. 47. Soap or other adhesive material must not be used in dressing cattle or horses. Infringement of this Rule will render the animal upon which the material is used liable to be disqualified.

Accommodation for Animals. 48. Loose-boxes will be provided for Stallions, three-, two-, and one-year-old entire Colts; for two- and one-year-old Fillies, and for Mares with foals at foot; closed-in stables for all the other Horses, and covered accommodation for the whole of the other Live Stock. In no case, either in the ordinary classes or "Extra Stock," will a box be provided except for the classes here specified. Stalls (floored) for attendants on Cattle, Horses, and Sheep will be provided at same rates as those charged for Stock. Exhibitors requiring the boxes, stalls, or pens for their animals to be floored must give instructions to the Showyard contractors, Messrs Macandrew & Co., Showyard, ten days before the Show opens. (For charges, see Rule 70.)

Floored stalls for Animals.

Securing Cattle. 49. Bulls must be secured by nose-rings, with chains or ropes attached, or with strong halters and double ropes. All Cattle, other than Highland Cattle, must be tied in their stalls.

Concealing Animals. 50. During the time the Show is open to the public no rug shall be hung up so as to conceal any animal in a horse-box or stall, except with the special permission of the Steward of that department.

Fodder. 51. Five days' supply of straw, hay, grass, and tares will be provided free by the Society. Any additional fodder or other kinds of food required will be supplied at fixed prices in the Forage-yard. Any servant removing bedding from an adjoining stall will be fined in double the amount taken. Exhibitors may fetch their own cake or corn to the Yard, but not grass, tares, hay, or straw. Coops, food, and attendance for Poultry will be provided by the Society.

Feeding appliances. 52. Servants in charge of Stock must bring their own buckets or pails, and a piece of rope or sheep-net to carry their forage. Mangers, sheep and pig troughs, will be provided.

Sawdust. 53. Sawdust must not be used as bedding for Stock.

Water. 54. As the command of water in the Yard is limited, it is particularly requested that waste be avoided.

Lights and Smoking. 55. No lights allowed in the Yard at night, and Smoking is strictly prohibited within the Sheds. Those infringing this Rule shall be liable to a fine of 10s.

Removal of stock. 56. Cattle, Sheep, Swine, or Poultry cannot be removed from the Yard till 5 P.M. on Friday, the last day of the Show, except on certificate by the Veterinary Surgeon employed by the Directors, countersigned by the Steward of the department or the Secretary.

Withdrawal of horses overnight. 57. At the close of the Show on Tuesday, Wednesday, and Thursday, horses may be withdrawn for the night on a deposit of £5 for each animal, which shall be forfeited, along with any prize money it may have gained, if the animal is not brought back. They must return between 7 and 7.30 the following morning, and those not in before 8 shall forfeit 10s. Horse passes to be applied for at the Secretary's Office between 5 and 6 P.M. on Tuesday, and the deposit, unless forfeited in whole or in part, will be returned between 12.30 and 2.30 on Friday.

Order in removal. 58. When the Stock is leaving the Yard, no animal is to be moved till ordered by those in charge of clearing the Yard. Those transgressing this Rule shall be liable to a fine of 10s., and to be detained till all the other Stock is removed.

Penning and removing Poultry.

59. Poultry may be penned before the opening and removed at the close of the Show by Exhibitors themselves or their representatives. In the event of neither the Exhibitor nor an authorised representative of the Exhibitor being present to pen or remove Poultry, the birds will be penned and removed by men hired and paid by the Society, but this will be done on the understanding that the men are hired to do the work on behalf of Exhibitors, and solely at their risk, and that the Society will be in no way responsible for expenses incurred or loss of or injury to Exhibits by errors or accidents in penning, despatching, or conveying Exhibits.

Closing of Poultry Shed.

60. On the opening day of the Show the Poultry Shed will be closed to the public during the Judging. On the last day of the Show the Poultry Shed will be closed to the public at 4 P.M.; at 5 P.M. Exhibitors or their representatives will be admitted to the Shed to remove Exhibits, provided the Exhibitor has, *not later than* 11 A.M. *on the last day of the Show*, given written notice to the Secretary to the effect that the Exhibitor or the Exhibitor's representative will attend at the Poultry Shed at 5 P.M. to remove the birds.

JUDGING STOCK AND POULTRY.

Opening Gates.

61. On Tuesday, the first day of the Show, no person will be admitted, except Servants in charge of Stock, till 8 A.M., when the Gates are opened to the public.

Judging.

62. The Judges will commence their inspection at 10 A.M. The spaces reserved for the Judging will be enclosed, and no encroachment shall be permitted.

Insufficient merit.

63. In no case shall a Premium be awarded unless the Judges deem the animals to have sufficient merit; and where only one or two lots are presented in a section, and the Judges consider them unworthy of the Premiums offered, it shall be in their power to award a lower prize.

Commendations.

64. In addition to the Premiums, the Judges are authorised to award three Commendations in each section, if the entries are numerous and the animals of sufficient merit. These Commendations consist of—Very Highly Commended, Highly Commended, and Commended.

Ayrshire Cows and Heifers.

65. Ayrshire Cows which have not calved before the Show, whether entered in a class for Cows in Milk or for Cows in Calf, shall be judged along with the Cows in Calf, and Ayrshire Cows or Heifers which have calved before the Show—in whichever of the classes entered—shall be judged along with Cows in Milk, subject to complying with the conditions of the Milk Test prescribed in Rules 65a and 65b.

Judging Ayrshire Cows.

65a. Ayrshire Cows in Milk must be in their stalls in the Showyard before 6 P.M. on the Sunday preceding the opening of the Show, must be milked dry, to the satisfaction of the Society's Officials, between 6 and 7 o'clock on that evening, and on the following day—the day before the opening of the Show—be milked at 6 A.M. and 6 P.M. in the presence of the Society's Official, who will weigh each cow's milk at each of these two milkings, and record the weights in a book provided for the purpose, the Official also entering in the same book the time occupied in milking each cow at each of the two milkings. A period of fifteen minutes is allowed for milking each aged cow; no time limit is imposed for milking three-year-old cows.

Milk Test.

65b. Aged Cows whose yield of milk at these two milkings does not equal or exceed 36 lb., and three-year-old cows whose yield at the two milkings does not equal or exceed 27 lb., will be disqualified for competing at the Show. Cows that may calve in the Show will not be eligible to compete unless they qualify in the foregoing Milk Test.

Attending Members.

66. Attending Members will accompany each section of the Judges. It will be the duty of Attending Members to bring the animals out to

the Judges and to see that no obstruction is offered to them, and that the space reserved for them is not encroached upon; to ticket the prize animals; to send the Nos. of prize animals to the Award Lectern at the Members' Pavilion; to assist the Judges in completing their return of awards; and should any difficulty arise, to communicate with the Stewards or Secretary.

67. It shall not be competent for any Exhibitor, nor for his Factor or Land-Steward, to act as a Judge or attending Member in any class in which he is competing.

DAIRY PRODUCE.

68. Dairy Produce will be received in the Showyard on Monday, the day before the opening of the Show, and till 8 A.M. on Tuesday, the first day of the Show. Judged at 10 A.M. on Tuesday. Exhibited Tuesday, Wednesday, Thursday, and Friday.

69. Dairy Produce must have been made on the Exhibitor's farm in the year of the Show. No Exhibitor shall show more than one lot in each class. No lot can be removed from the Yard till 5 P.M. on Friday, the last day of the Show. The Society undertakes no responsibility for the receipt or despatch of exhibits, nor for the loss of exhibits, nor for any injury they may sustain during the Show.

STALL RENT (INCLUDING ENTRY FEE).

70. The following rates (which include Entry Fees and Stall Rent) shall be paid by Exhibitors when making their Entries:—

	Members.		Non-Members.	
	s.	*d.*	*s.*	*d.*
Stalls for Cattle, each	15	0	25	0
Ayrshire Cows in milk and in calf, Classes 28, 29, and 30 (enclosed stalls)	25	0	35	0
Boxes for Horses in Classes 35, 36, 37, 42, 57, 58, 59, 63, and 64	30	0	40	0
Boxes for Horses in Classes 38, 45, 46, 47, 48, 49, 61, 62, 65, 66, 67, 68, 72, 74, 75, 77, 78, and 79	22	6	32	6
Stalls for Horses in Classes 39, 40, 41, 43, 44, 50, 51, 52, 53, 54, 55, 56, 60, 82, and 83	20	0	30	0
Stalls for Ponies in Classes 69, 70, 71, 73, 76, 80, and 81	15	0	20	0
Shed Accommodation for Machines for driving competitions, each	5	0	10	0
Sheep or Swine, per pen	10	0	15	0
Poultry, each entry	2	0	3	0
Dairy Produce, each entry	4	0	6	0
Covered Booths for offices, 9 feet by 9 feet	70	0	100	0
Newspaper offices . . £2. 10s.				
Attendants' Stalls—Rates as above—See Rule 71.				

Floored Stalls.—Exhibitors desiring the boxes, stalls, or pens for their animals to be floored can have this done by, ten days before the opening of the Show, giving instructions to the contractors, Messrs Macandrew & Co., the Showyard, to whom the following charges for flooring have to be paid: Horses, 10s. each; Ponies, Cattle, Sheep, and Swine, 7s. each.

Entries in more than one Class.—In the case of animals entered in more than one class, the entry fee, whether for Post or other Entries, shall be five shillings for each class after the first. This does not apply to the Jumping Competitions.

EXTRA STALL FOR ATTENDANTS.

71. Exhibitors of Stock shall be entitled to take an extra Stall or Box for the accommodation of their attendants, but they must state when making their Entry that the Stall or Box is to be used for that purpose, and remit rent, which is at the same rate as stated above for the particular class of stock. They must also state next to which animal they wish the attendant's accommodation to be placed.

IMPLEMENTS AND OTHER ARTICLES.

Admission

72. Implements will be received in the Yard from Tuesday, 2nd July, till 5 o'clock on the afternoon of Monday, 8th July. Exhibited Tuesday, Wednesday, Thursday, and Friday. The Schedule of Entry must be filled up so far as within the knowledge of the Exhibitor, and prices must be stated.

Premiums

73. No Money Prizes or Medals, except when specially offered, will be given by the Society for Implements of any kind.

Refusing Entries.

74. Agricultural Implements, and Implements and collections of articles not Agricultural, will be received for Exhibition, but the Secretary is entitled to refuse Entries from dealers in articles not deemed worthy of Exhibition.

Local Operatives.

75. In order to encourage exhibits of Agricultural Implements from operative Blacksmiths and Carpenters in the district of the Show, open space will be provided for these in some less prominent part of the Yard at a charge of 10s. for space 10 feet wide and 20 feet deep.

Articles not entered.

76. Every article to be exhibited must be entered on the Society's Entry Form. Any article not so entered that is taken to the Show is liable to be ordered out of, or removed from, the Showyard, or confiscated to the Society. Exhibitors infringing this rule are moreover liable to a fine of £1.

Selling by auction and noisy behaviour forbidden.

77. "Cheap-Jacks" are not admitted to the Showyard. The selling of goods by auction, shouting, and other behaviour calculated to annoy visitors or Exhibitors, are strictly forbidden. Exhibitors infringing this Regulation are liable to a fine of £1, and to have themselves and their goods ordered out of, or removed from, the Showyard, or to have their goods confiscated to the Society.

Placing Exhibits. *Removing Exhibits.*

78. The articles of each Exhibitor must be all placed in one stand, except Implements in motion, and must not on any account extend beyond the allotted space. No article shall be moved out of its stand, or the stand dismantled, till the termination of the Show, at 5 P.M. on Friday. Those infringing this Rule shall be liable to a fine of 10s.

Restoring Turf.

79. When the ground requires to be broken, the turf must be carefully lifted and laid aside, and the surface must be restored to the satisfaction of the Society, and at the expense of the Exhibitor. Failing this being done, the Society shall be at liberty to restore the ground and charge the cost to the Exhibitor.

Arranging Exhibits. *Signs.*

80. Exhibitors must arrange their own articles *within* the space allotted to them before 9 o'clock on Tuesday, and to the satisfaction of the Stewards in charge of the Implement Yard. Exhibitors are prohibited from subletting space allotted to them, and from displaying the name of any other firm on their Stand. All signs, except signs on gables, must face the front only. Nails must not be driven into the canvas.

Handbills.

81. Exhibitors are not allowed to distribute handbills anywhere in the Yard except at their own Stand; and they must not for this or any other purpose encroach upon the adjacent alleys or open spaces.

Sweeping Stands, &c.

82. Exhibitors are required to have their Stands and the portions of the alleys immediately adjoining them swept up before eight o'clock on each morning of the Show.

Fuel.

83. All Machines requiring steam or fire must be entered as such in the Certificate, and will be placed in the Motion Yard. *Coke only shall be used in all cases where fire is required.* Coal shall not be used at any time in the Showyard. Those infringing this Rule shall incur a penalty of £5.

Steam Engines.

Motors.

84. No Steam Engine shall be driven in the Yard at a greater speed than 4 miles an hour. Traction Engines shall not be used in conveying Exhibits or other goods into, from one place to another in, or out of the Showyard. Without *written* permission by the Steward of Implements or Secretary, Motor Waggons shall not be used in conveying goods into or out of the Showyard.

Traction Engines.

85. Locomotive and Traction Engines and other Machines must not be moved from their places without permission of the Secretary or Stewards, and must not leave their stands till 6 P.M. on Friday.

Consigning Implements.

86. There must be attached to each Implement, when forwarded to the Show, a label bearing the Exhibitor's name, and that of the Implement, as well as the number of the Exhibitor's stand.

87. The carriage of all Implements must be prepaid.

Photographing in Showyard.

88. Photographing in the Showyard is not permitted, except by photographers having a Stand in the Showyard or holding a "Photographer's Ticket." The "Photographer's Ticket" may be had from the Secretary, price 15s. It admits the holder to the Show when open to the public, and entitles him to photograph in the Showyard, subject to arrangements made by the Stewards.

Covered Booths.

89. Covered Booths for Offices (9 feet by 9 feet), purely for business, not for exhibition of goods, can be had for £2, 10s to Members and £5 to Non-Members.

Exhibitors' and Attendants' Tickets.

90. Each Exhibitor in the Implement Department who is not a Member of the Society will receive one free Ticket of Admission to the Showyard for himself or a member of his firm, and will receive, in addition, for the use of attendants employed by him at his Stand, two Tickets of Admission for each complete ten feet of shedding in the Motion Yard, and one Ticket for each complete ten feet of shedding in the other sections. No additional Free Tickets can be issued in any circumstances whatever. Additional Attendants' Tickets, not more than five for any one Exhibitor, may be purchased at 5s. each.

Tickets to be filled up and signed.

Tickets not Transferable.

Improper use of Tickets.

91. The Tickets of Admission for Exhibitors and Attendants referred to in the foregoing Regulation will (about fourteen days prior to the Show) be issued to the Exhibitors in blank, with the number of the Exhibitor's Stand. The name of the person for whom each ticket is intended must be written on it before it is used. Each person holding a Free Ticket of Admission must sign his or her name on the back thereof, and must also, when required, sign his or her name in the book at the Entrance Gate. Exhibitors' attendants are strictly cautioned not to lend or transfer their Tickets, which can be used only by the persons whose names they bear, and who must be *bona fide* acting for, or employed by, the Exhibitor. No Ticket is transferable. An Exhibitor is liable to a fine of £1 for each case of transfer or other improper use of a Ticket issued to himself or employee.

Admission of Supplies for Stand-holders.

92. The following are the arrangements for the admission of Supplies (Refreshments or other goods) for Stand-holders during the Show: Messenger on foot (with or without hand-barrow) with supplies, admitted by Special Ticket; price for one admission, 1s., for the four days, 3s. Horse vehicle and driver with supplies, admitted by Special Ticket; price for one admission, 1s., for the four days, 5s. These Special Tickets may be had from the Secretary. Horse vehicles, with supplies, admitted throughout the day on the first day of the Show; on the other three days

they will not be admitted between the hours of 10 A.M. and 5 P.M. except by written permit from the Secretary.

93. The riding of Cycles in the Showyard is prohibited. *Cycles.*

94. The Society reserves the right to allot to applicants for Stands either the whole or part of the space they ask for. *Allocation of space.*

95. The Society will not be responsible for any accident that may occur from the machinery belonging to any Exhibitor; and it is a condition of entry that each Exhibitor shall hold the Society harmless, and indemnify it against any legal proceedings arising from any accident caused by his machinery. *Accidents.*

96. The giving of Alcoholic Drinks to visitors at Stands in the Show is strictly prohibited. *Alcoholic Drinks.*

STALL RENT.

97. Ground to be taken in spaces of 10 feet frontage by 20 feet deep, except in Motion Yard, which is to be 10 feet or any larger amount of frontage by 50 feet deep. Exhibitors must take their space in one or other of the following Sections. Space is not let partly covered and partly open.

98. Rates for space, payable by Exhibitors when making their Entries:—

	Members.	Non-Members.
Space without Shedding, 20 ft. deep, per 10 ft.	£1 5 0	£1 15 0
Special Space, without Shedding, 20 ft. deep, per 10 ft.	2 0 0	2 10 0
Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	1 5 0	1 15 0
Shedding, 20 ft. deep, 7 ft. to eave, *boarded at back*, per 10 ft.	1 12 0	2 2 0
Special Shedding, 20 ft. deep, 7 ft. to eave, per 10 ft.	2 0 0	2 10 0
Special Shedding, 20 ft. deep, 7 ft. to eave, *boarded at back*, per 10 ft.	2 7 0	2 17 0
Space in Motion Yard, without Shedding, 50 ft. deep, per foot	0 5 0	0 8 0
And with Shedding, 20 ft. deep, 10 ft. to eave, per foot	0 7 0	0 10 0
Covered Booths for offices, 9 ft. by 9 ft., each	3 10 0	5 0 0
Newspaper offices, each . . £2, 10s.		

ADMISSION OF THE PUBLIC.

The public will be admitted daily at 8 A.M. Judging begins on Tuesday at 10 A.M. The charges for admission to the Yard will be—Tuesday, from 8 A.M. till 5 P.M., 5s. Wednesday, from 8 A.M. till 5 P.M., 3s.; from 5 P.M. till 8 P.M., 1s. Thursday, from 8 A.M. till 5 P.M., 2s.; from 5 P.M. till 8 P.M., 1s. Friday, from 8 A.M. till 5 P.M., 1s.

ADMISSION OF MEMBERS AND EXHIBITORS.

On exhibiting their "*Member's Ticket*," which is strictly not transferable, Members of the Society are admitted free to the Showyard and to the Enclosures and Stands around the Large Ring, excepting the Reserved Seats in the Grand Stand, and such other parts as may be reserved for any special purpose. Tickets will be sent to all Members residing in the United Kingdom whose addresses are known, and on no account will duplicates be issued. **All Members not producing their tickets must pay at the gates, and the admission money will not on any account be returned.** Tickets must be signed by Members before being presented at the gate.

Tickets of admission to the Showyard are sent to Exhibitors of Stock, Poultry, and Dairy Produce (not Members) whose Entry Fees amount to not less than 10s.

For Exhibitors of Implements and their assistants tickets are issued as provided in the Regulations for Implements.

RESERVED SEATS IN GRAND STAND.

For Charges, apply to Secretary.

VARIOUS.

Placards, except those of the Society, are prohibited both inside the Showyard and on the outside of the Boundary Fence, with the exception of those belonging to Exhibitors, whose right is confined to their own stalls. No newspapers or any other article allowed to be carried about the Yard for sale or display. No strolling bands or musicians admitted.

No Carriages or Equestrians admitted without special leave from the Directors, and then only for Invalids. Bath-chairs may be brought in.

Premium Lists, Regulations, and Certificates of Entry may be obtained by applying at the Secretary's Office, No. 3 George IV. Bridge, Edinburgh.

All Communications should be addressed to JAMES MACDONALD, Esq., *Secretary of the Highland and Agricultural Society of Scotland, No. 3 George IV. Bridge, Edinburgh. From 4th to 12th July to the Secretary's Office, Showyard, Prestonfield, Edinburgh.*

Address for Telegrams—"SOCIETY," EDINBURGH.

LAST DAYS OF ENTRY.

IMPLEMENTS AND OTHER ARTICLES—Monday, 6th May.

STOCK, POULTRY, AND DAIRY PRODUCE—Friday, 31st May.

No Entry at ordinary fees taken later than those which are received at the Society's Office, Edinburgh, by first post, or 10 o'clock, on Friday morning (31st May). Post Entries for Cattle, Horses, Sheep, and Swine taken on payment of 10s. additional for each entry (Poultry at double fees) till Wednesday morning (5th June), at the Society's Office, Edinburgh, at 10 o'clock.

RAILWAY ARRANGEMENTS.

The Railway Companies will be furnished with a list of the Exhibitors of Stock and Implements, after the 18th June. All applications for horse-boxes and trucks, and for information as to arrangements of Special Trains, must be made by the Exhibitors themselves to the Stationmaster where their stock is to be trucked.

The arrangements made by the Railway Companies for the conveyance of Live Stock and Goods to and from the Show are indicated *below, but exhibitors are recommended to apply to the respective companies for* full particulars:—

1. Live Stock and Goods *to* the Show to be charged ordinary rates.

2. Live Stock and Goods *from* the Show, *if sold*, to be charged ordinary rates.

3. Live Stock and Goods *from* the Show, *if unsold*, to be carried at half rates back to the station whence they were sent, at owners' risk, on surrender of a certificate from the Exhibitor to the effect that they are really unsold; failing surrender of such certificate, ordinary rates must be charged. The reduction to half rate is to be allowed only when the animals or goods are returned by the same route as that by which they were conveyed *to* the Show. The minimum charge for Stock returned at half rates will be one-half the ordinary minimum.

If the unsold Live Stock which was carried on the outward journey by Passenger Train in horse-boxes be required to be returned by Goods Train in cattle trucks, half the Goods Train rates must be charged.

If the unsold Live Stock which was carried on the outward journey by Goods Train in cattle trucks be required to be returned by Passenger Train in horse-boxes, half the Passenger Train rates must be charged.

4. Horses and Cattle, when sent for exhibition from one Agricultural Show to another, in another part of the country, are charged the ordinary single rates in respect of each journey, from point to point, up to the last station to which they are sent for exhibition. If remaining unsold when returned from the

latest Show to the originating or home station, they are—on surrender of the necessary certificates—charged half rates, provided such return journey is made by the line of the company by whose route it was conveyed on the outward journey, and provided the railway traversed was covered on the outward journey. If conveyed by Goods Train, Unsold Live Stock transferred from one Agricultural Show to another in another part of the country must be charged ordinary rates.

5. Unsold goods, previously carried by railway, transferred from one Agricultural Show to another, in another part of the country, will be conveyed at half rates at owners' risk, on production of certificate from the Exhibitor to the effect that they are unsold; failing production of such certificate, ordinary rates will be charged. This applies only to Goods Trains.

6. Poultry to be charged ordinary rates both ways, and will not be accepted for conveyance unless the carriage charges are prepaid.

7. Horse-boxes, or other Passenger Train vehicle, will not be provided for the carriage of Live Stock sent by Goods Train and invoiced at Goods Train rates. *For rates for Horse-boxes by Passenger and Special Trains, apply to the Railway Companies.*

8. Provender conveyed to Agricultural Shows with Live Stock will be charged ordinary rates, except so much of the same as may be required on the journey.

9. Men, certified by the owners to be *bona fide* in charge of Live Stock, to be conveyed free in the same train as the animals, as follows: One man for each consignment, except where the consignment requires more than one vehicle, when one man for each vehicle may be sent free; but no pass is given unless the charge for the consignment amounts to as much as the charge for one horse. When two or three horses forming one consignment are sent in the same horse-box, and a man is required to travel with each animal, the men may be conveyed free, provided each horse is charged at the single horse rate. Upon both the outward and homeward journeys a separate certificate and contract must be given, which must be retained by the stationmaster at the outward or homeward starting-point, as the case may be.

10. The ordinary rates charged for carriage do not in any case include delivery *to*, or collection *from*, the Show ground.

11. Agricultural Societies' Show Plant must be charged at Class C rates, station to station.

12. Tents, Canvas, and other articles carried to Shows, not for exhibition, to be charged the ordinary rates both going and returning.

13. The carriage of all Live Stock, Implements, and other articles going to the Show for exhibition must be *prepaid.*

DELIVERY CHARGES.

The following will be the Charges for the Delivery or Collection of Live Stock, Implements, and other articles between the Railway Stations at Edinburgh and the Show ground:—

1. General traffic, 3s. 6d. per ton (minimum charge, 1s. 6d.)
2. Implements and Machinery (Agricultural), not exceeding 1 ton each, 4s. per ton (minimum charge, 2s.)
3. Implements and Machinery (Agricultural), on their own wheels (specially hauled), not exceeding 1 ton, 4s. each.
4. Single articles, exceeding 1 ton but not exceeding 3 tons, 4s. 6d. per ton.
5. Single articles, exceeding 3 tons but not exceeding 5 tons, 6s. 6d. per ton.
6. Single articles, exceeding 5 tons, by special arrangement only, but no less charge than 8s. 6d. per ton.
7. Rustic Houses, by special arrangement only, but no less charge than 7s. 6d. each load.
8. Carriages, four-wheeled, 5s. each.
9. Carriages, two-wheeled, 4s. each.
10. Cattle, in floats, 3s. 6d. per head, minimum charge, 5s.
11. Sheep and Pigs, in floats, 1s. per head (minimum charge, 5s., and maximum charge, 7s. 6d. for each float).

THE PRINCE OF WALES CHAMPION GOLD MEDALS

In commemoration of the visit of their Royal Highnesses the Prince and Princess of Wales, the Society offers a Champion Gold Medal for the *best Animal or pen* in each of the following sections :—

1. Shorthorn.
2. Aberdeen-Angus.
3. Galloway.
4. Highland.
5. Ayrshire.
6. Jersey.
7. Clydesdale Stallions.
8. Draught Geldings.
9. Clydesdale Mares and Fillies.
10. Hunters.
11. Hackneys.
12. Ponies.
13. Polo and Riding Ponies.
14. Cobs.
15. Highland Ponies.
16. Shetland Ponies.
17. Harness Horses.
18. Blackface Sheep.
19. Cheviot.
20. Border Leicester.
21. Half-bred.
22. Shropshire.
23. Oxford-Down.
24. Suffolk.
25. Swine.

THE PRESIDENT'S CHAMPION MEDALS

A Champion Medal is given by his Grace THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T., President of the Society, for the *best Animal or pen* of the sex opposite to that of the winner of the Prince of Wales Medal.

NOTE.—*Animals entered as Extra Stock may compete for these Medals. Former Winners of the President's Medals are eligible. The Society shall have the right to photograph the Winners for publication in the 'Transactions.' At this Show no animal can be awarded more than one of these Medals.*

CATTLE

SHORTHORN

ENTRY FEES		CLASS		*PREMIUMS*			
mbers	Non-embers						Fi
			Prince of Wales Gold Medal for best Shorthorn	£	£	£	£
15/-	25/-	1	Bull calved before 1905	15	10	5	3
15/-	25/-	2	Bull calved in 1905	15	10	5	3
15/-	25/-	3	Bull calved in 1906	12	8	4	2
			Tweeddale Gold Medal for best Shorthorn Bull.				
			[1] Best Shorthorn Bull in the Show, entered or eligible for entry in Coates's Herd-Book—£25.				
			Breeder of best Bull of any age in the three Classes—The Silver Medal.				
15/-	25/-	4	Cow of any age in Milk	12	8	4	2
15/-	25/-	5	Heifer calved in 1905.	10	5	3	2
15/-	25/-	6	Heifer calved in 1906.	10	5	3	2
			[1] Best Shorthorn Female in the Show, entered or eligible for entry in Coates's Herd-Book—£25.				
			TOTAL PRIZE MONEY . . £158				

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[1] Given by the Shorthorn Society.

CATTLE

[1] ABERDEEN-ANGUS

Prince of Wales Gold Medal for best Aberdeen-Angus Animal

ENTRY FEES				*PREMIUMS*			
				£	£	£	£
15/-	25/-		**Bull** calved before 1st Dec. 1904	15	10	5	3
15/-	25/-		**Bull** calved on or after 1st Dec. 1904	15	10	5	3
15/-	25/-	9	**Bull** calved on or after 1st Dec. 1905	12	8	4	2
			[1] **Ballindalloch Challenge Cup**, value £50, for the best Bull in the three Classes.				
			Breeder of best Bull of any age in the three Classes—The Silver Medal.				
			Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.				
15/-	25/-	10	**Cow** of any age in Milk	12	8	4	2
			[1] **Ballindalloch Challenge Cup**, value £50, for the best Cow of any age in the above Class.				
			Breeder of the Winner of the Ballindalloch Challenge Cup—The Silver Medal.				
15/-	25/-	11	**Heifer** calved on or after 1st Dec. 1904	10	5	3	2
15/-	25/-	12	**Heifer** calved on or after 1st Dec. 1905	10	5	3	2
			[2] **Champion Gold Medal** for best breeding animal of the breed in the Showyard.				
			TOTAL PRIZE MONEY . . £158				

GALLOWAY

Prince of Wales Gold Medal for best Galloway

15/-	25/-	13	**Bull** calved before 1st Dec. 1904	15	10	5	3
15/-	25/-	14	**Bull** calved on or after 1st Dec. 1904	15	10	5	3
15/-	25/-	15	**Bull** calved on or after 1st Dec. 1905	12	8	4	2
			Breeder of best Bull of any age in the three Classes—The Silver Medal.				
15/-	25/-	16	**Cow** of any age in Milk	12	8	4	2
15/-	25/-	17	**Heifer** calved on or after 1st Dec. 1904	10	5	3	2
15/-	25/-	18	**Heifer** calved on or after 1st Dec. 1905	10	5		
			TOTAL PRIZE MONEY . . £158				

HIGHLAND

Prince of Wales Gold Medal for best Highland Animal

15/-	25/-	19	**Bull** calved before 1905	15	10	5	3
15/-	25/-	20	**Bull** calved in 1905	15	10	5	3
15/-	25/-	21	**Bull** calved in 1906	12	8	4	2
			Breeder of best Bull of any age in the three Classes—The Silver Medal.				

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[1] "The Ballindalloch Challenge Cups," value £50 each, are offered for the best Bull of any age and best Cow of any age (Heifers excluded) in the Aberdeen-Angus classes, the former presented by Sir George Macpherson Grant, Bart., and the latter by the late Mr C. Macpherson Grant of Drumduan. Each Cup will become the property of the Exhibitor who shall win it five times, not necessarily in succession. The breeder of the successful animals each year will receive the Society's Silver Medal, with suitable inscription.

[2] Given by the Polled Cattle Society.

CATTLE

HIGHLAND—*continued*

Entry Fees Members	*Entry Fees* Non-Members	Class		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
				£	£	£	£
15/-	25/-	22	Cow of any age in Milk	12	8	4	2
15/-	25/-	23	Heifer calved in 1904	10	5	3	2
15/-	25/-	24	Heifer calved in 1905	10	5	3	2

Total Prize Money . . £158

AYRSHIRE

Prince of Wales Gold Medal for best Ayrshire

Entry Fees Members	*Entry Fees* Non-Members	Class		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
15/-	25/-	25	Bull calved before 1905	12	8	4	—
15/-	25/-	26	Bull calved in 1905	10	7	3	—
15/-	25/-	27	Bull calved in 1906	8	5		
			Breeder of best Bull of any age in the three Classes—The Silver Medal.				
25/-	35/-	28	[1]Cow calved before 1904 in Milk		8	4	—
25/-	35/-	29	[1]Cow in Milk, calved after 1st Jan. 1904		7	3	—
25/-	35/-	30	[1]Cow of any age in Calf, or Heifer calved in 1904 in Calf and due to calve within nine months after the Show	10	7	3	—
15/-	25/-	31	Heifer calved in 1905	10	5	3	—
15/-	25/-	32	Heifer calved in 1906	8	5	3	—
			[2]Special Prize of £10 for the best Animal of the Ayrshire breed entered with a number in the Ayrshire Cattle Herd-Book.				

Total Prize Money . . £158

JERSEY

Prince of Wales Gold Medal for best Jersey Animal

Entry Fees Members	*Entry Fees* Non-Members	Class		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
15/-	25/-	33	Cow in Milk, any age	8	5	3	—
15/-	25/-	34	Heifer calved in 1906	5	3	2	—

Total Prize Money . . £26

Total Prize Money for Cattle, £816

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[1] Cows in these Classes must have produced a calf within fifteen months prior to the Show. See Rules 65a and 65b as to Milk Test.

[2] Given by the Ayrshire Cattle Herd Book Society.

[1] HORSES

FOR AGRICULTURAL PURPOSES

DRAUGHT STALLIONS

Prince of Wales Gold Medal for best Clydesdale Stallion or Colt

ENTRY FEES *Members*	*ENTRY FEES* *Non-Members*	*CLASS*		*PREMIUMS* *First* £	*PREMIUMS* *Second* £		
30/-	40/-	35	Stallion foaled before 1904	20	15	10	-
30/-	40/-	36	Entire Colt foaled in 1904	20	15	10	4
30/-	40/-	37	Entire Colt foaled in 1905	20	12	8	4
22/6	32/6	38	Entire Colt foaled in 1906	15	10	6	4
			Breeder of best Male Animal of any age in the four Classes—The Silver Medal.				

TOTAL PRIZE MONEY . . £177

DRAUGHT GELDINGS

Prince of Wales Gold Medal for best Draught Gelding

Members	*Non-Members*	*CLASS*		*First* £	*Second* £		
20/-	30/-	39	Draught Gelding foaled before 1904. . . .	10	5		
20/-	30/-	40	Draught Gelding foaled in 1904	6	4	3	–
20/-	30/-	41	Draught Gelding foaled in 1905	6	4		

TOTAL PRIZE MONEY . . £44

DRAUGHT MARES AND FILLIES

Prince of Wales Gold Medal for best Clydesdale Mare or Filly

Members	*Non-Members*	*CLASS*		*First* £
30/-	40/-	42	Mare of any age, with Foal at foot	20
20/-	30/-	43	Yeld Mare foaled before 1904	12
20/-	30/-	44	Yeld Mare or Filly foaled in 1904	12
22/6	32/6	45	Filly foaled in 1905	12
22/6	32/6	46	Filly foaled in 1906	12
			Best Clydesdale Mare or Filly—Cawdor Challenge Cup, value 50 guineas. See Conditions below.[2]	
			[3] Breeder of best Clydesdale Brood Mare—The Robert Murdoch Prize, value £10.	

TOTAL PRIZE MONEY . . £167

Total Prize Money for Clydesdales, £388

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[1] No animal is allowed to compete in more than one Class, except that horses entered in other Classes may also compete in the Jumping and Driving Classes.

[2] This Cup is offered by the Clydesdale Horse Society of Great Britain and Ireland for the best Clydesdale Mare or Filly registered in the Clydesdale Stud-Book, entered in any of the Draught Horse classes, at the Show at which it may be competed for. The Cup must be won three times by an Exhibitor with different animals (but not necessarily in consecutive years) before it becomes his absolute property. The winner of the Cup, other than the absolute winner, shall, before delivery thereof is made to him, give security to the Clydesdale Horse Society that he shall surrender the same to the Society and deliver it at the Society's office when called upon to do so. Until the Cup be won outright, the winner on each occasion will receive the Clydesdale Horse Society's Silver Medal as a memento of his winning the Cup.

[3] Bequest by the late Miss Murdoch.

HORSES

[1]HUNTERS

ENTRY FEES		*CLASS*		*PREMIUMS*		
Members	*Non-Members*			£	£	£
			Prince of Wales Gold Medal for best Hunter			
22/6	32/6	47	**Colt, Gelding, or Filly**, foaled in 1906, the produce of thoroughbred Stallions, out of Mares of any breed,—Five Prizes[2]—£10, £7, £5, £2, £1.			
22/6	32/6	48	**Gelding** foaled in 1905—*in hand*	10	6	4
22/6	32/6	49	**Filly** foaled in 1905—*in hand*	10	6	4
20/-	30/-	50	**Gelding** foaled in 1904—*in hand*	10	6	4
20/-	30/-	51	**Filly** foaled in 1904—*in hand*	10	6	4
			[3]**Best Hunter Filly** in the foregoing Classes, registered or entered in the Hunter Stud-Book—Gold Medal, value £10, 10s.			
20/-	30/-	52	**Hunter** foaled in 1903, able to carry 14 stone and over	20	10	5
20/-	30/-	53	**Hunter** foaled in 1903, able to carry 12 stone 7 lb. to 14 stone	20	10	
20/-	30/-	54	**Hunter** foaled in or before 1902, able to carry 14 stone and over	20	10	
20/-	30/-	55	**Hunter** foaled in or before 1902, able to carry 12 stone 7 lb. up to 14 stone	20	10	
20/-	30/-	56	**Saddle Hack** of the Hunter type, any age, not over 15.2 hands	10	6	
			Hunter entered in the foregoing Classes, the property of members of, or subscribers to, any established Pack of Foxhounds in Scotland, hunted by their owners in 1906-7, able to carry 13 stone to 14 stone 7 lb.[4]	12	8	
			Hunter in the foregoing Classes, 4 years old and upwards, the property of tenant-farmers in Scotland whose chief occupation is farming . .	12	8	
30/-	40/-	57	[5]**Hunter Brood Mare, with Foal at foot**—£15, £8, £4.			
			[6]**Gold Medal, Silver Cup, or £10 in cash** for the best Hunter Mare or Filly by a Thoroughbred or Hunter sire, registered in Volume V. of the Imperial Hunter Stud-Book, Boscombe, Hampshire. No mare to take more than one of these Special Prizes each year. The winner to pass sound and free from hereditary disease on the Show ground.			
			TOTAL PRIZE MONEY . . . £288			

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[1] A sum of £50 is contributed to the Prizes for Hunters, per Mr C. H. Scott Plummer.

[2] Given by Sir John Gilmour of Montrave, Bart. [3] Given by the Hunter Improvement Society.

[4] A certificate must be furnished from the Master of the Pack to the effect that the animal has been hunted as provided.

[5] Given by Captain Clayhills Henderson of Invergowrie, R.N.

[6] Given by the Imperial Hunter Stud-Book Co.

HORSES

HACKNEYS

(All to be shown in hand)

Prince of Wales Gold Medal for best Hackney

Entry Fees Members	*Entry Fees* Non-Members	Class		*Premiums* £	Secon £	Thir £
30/-[1]	40/-	58	**Brood Mare**, 15 hands and upwards, with Foal at foot, or to foal this season to a registered sire	10	6	4
30/-	40/-	59	**Brood Mare**, under 15 hands, with Foal at foot, or to foal this season to a registered sire	10	6	4
20/-	30/-	60	**Yeld Mare or Filly** foaled in 1904	8	5	3
22/6	32/6	61	**Filly** foaled in 1905	8	5	3
22/6	32/6	62	**Filly** foaled in 1906	8	5	3
30/-	40/-	63	**Stallion** foaled in or before 1904, over 15 hands	10	6	4
30/-	40/-	64	**Stallion** foaled in or before 1904, over 14 and not over 15 hands	10	6	4
22/6	32/6	65	**Entire Colt** foaled in 1905	8	5	3
22/6	32/6	66	**Entire Colt** foaled in 1906	8	5	3

All animals entered in the above Hackney Classes must be registered in the Hackney Stud-Book except in Classes 62 and 66, and animals entered in Classes 62 and 66 must be eligible for entry in the Hackney Stud-Book.

[1] **A Champion Prize of £10, or a Gold Medal of the same value, at the option of the Exhibitor, is offered by Hackney Horse Society for best Mare or Filly in Hackney or Pony Classes.**

TOTAL PRIZE MONEY . . **£160**

PONIES

(Classes 67 to 71 will be judged by Hackney Judges)

Prince of Wales Gold Medal for best Pony

Entry Fees Members	*Entry Fees* Non-Members	Class		*Premiums* £	Secon £	Thir £
22/6	32/6[1]	67	**Stallion**, 3 years old and upwards, over 12, not exceeding 14 hands—*in hand*	5	3	2
22/6	32/6	68	**Stallion**, 3 years old and upwards, 12 hands and under—*in hand*	5	3	2
15/-	20/-	69	**Yeld Mare, Filly, or Gelding**, 3 years old and upwards, over 13 and not over 14 hands—*in saddle*	5	3	2
15/-	20/-	70	**Yeld Mare, Filly, or Gelding**, 3 years old and upwards, over 12 and not over 13 hands—*in saddle*	5	3	2
15/-	20/-	71	**Yeld Mare, Filly, or Gelding**, 3 years old and upwards, 12 hands and under—*in hand*	5	3	2

TOTAL PRIZE MONEY . . **£50**

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[1] A Mare 6 years old or more must have had a living foal. Winners of the Hackney Society's £10 Prize or Gold Medal in 1907, except at the London and Royal English Shows, excluded. The winner must be entered or accepted for entry in Hackney Stud-Book, and certified free from hereditary disease. This Gold Medal is not redeemable.

HORSES

POLO AND RIDING PONIES

Prince of Wales Gold Medal for best Polo or Riding Pony

ENTRY FEES		CLASS		PREMIUMS		
Members	Non-Members			First	Second	Third
				£	£	£
22/6	32/6	72	**Stallion**, 3 years old and upwards, 13.2 and not exceeding 14.2 hands, entered in the Polo and Riding Pony Stud-Book, or got by a Registered Polo Pony sire or out of a Registered Polo Pony dam—*in hand*	5	3	2

COBS

Prince of Wales Gold Medal for best Pony in Class 73

Members	Non-Members	CLASS		First	Second	Third
15/-	20/-	73	**Riding Cob or Pony, Gelding, Mare, or Filly**, not eligible by pedigree or type for any of the other Pony Classes, from 13.2 to 15 hands —*in saddle*	5	3	2

[1] HIGHLAND PONIES

Prince of Wales Gold Medal for best Highland Pony

Members	Non-Members	CLASS		First	Second	Third
22/6	32/6	74	**Highland Pony Stallion**, 3 years old or upwards, not exceeding 14.2 hands, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book	10	3	2
22/6	32/6	75	**Highland Pony Entire Colts** foaled in 1905 or 1906	10	3	2
15/-	20/-	76	**Highland Pony Mare**, 3 years old or upwards, not exceeding 14.2 hands, yeld or with Foal at foot, entered or accepted for entry in the Highland Section of the Polo Pony Stud-Book . .	10		

[2] TOTAL PRIZE MONEY . . £45

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[1] Exhibitors desirous of entering in these Classes Ponies not yet accepted for entry in the Highland Section of the Polo Pony Stud-Book are recommended to communicate with Mr J. H. Munro Mackenzie of Calgary, Isle of Mull, who will advise as to the steps to be taken with a view to the registration of the Ponies. All entries for above Classes must be accompanied by a certificate, either from Mr Mackenzie or from Mr A. B. Charlton, Secretary to the Polo and Riding Pony Society, 12 Hanover Square, London, W., to the effect that the animals are entered or accepted for entry in the Highland Pony Section of the Polo Pony Stud-Book.

[2] The Polo and Riding Pony Society give £15 towards these prizes.

HORSES

SHETLAND PONIES

(All to be shown in hand)

Prince of Wales Gold Medal for best Shetland Pony

ENTRY FEES		CL.		PREMIUMS			
Mem	No Mem			First £	Second £	Third £	Fourth £
22/6	32/6	77	**Stallion**, not exceeding 10½ hands, foaled before 1904	5	4	3	2
22/6	32/6	78	**Entire Colt**, not exceeding 10½ hands, foaled in 1904 or 1905	5	4	3	2
22/6	32/6	79	**Mare**, not exceeding 10½ hands, with Foal at foot	5	4	3	2
15/-	20/-	80	**Yeld Mare**, not exceeding 10½ hands . . .	5	4	3	2
15/-	20/-	81	**Filly**, not exceeding 10½ hands, foaled in 1904 or 1905	5	4	3	2
			[1] **Piece of Silver**, value £10 to £12, for best group of Shetland Ponies, to consist of one male and two females, drawn from the ordinary classes; and (2) Silver-mounted Hoof of the celebrated Shetland Pony "Odin" 32 for the best Shetland Pony Foal, foaled after 31st March 1907 and exhibited with its dam in the ordinary class for Shetland Pony Mare with Foal at foot, or as Extra Stock; and (3) Silver Medal for best Shetland Pony.				
			TOTAL PRIZE MONEY . . £70				

DRIVING COMPETITIONS

[2] *Prince of Wales Gold Medal for best animal in the Classes for Horses in Harness*

ENTRY FEES		CL.		PREMIUMS			
Mem	No Mem			First £	Second £	Third £	Fourth £
20/-	30/-	82	**Yeld Mare, Filly, or Gelding**, any age, in Harness, 15 hands and upwards, to be driven in the ring .	10	5		
20/-	30/-	83	**Yeld Mare, Filly, or Gelding**, any age, in Harness, under 15 hands, to be driven in the ring . .	10	5		
			Special Prize for best Pony in Class 83 under 13 hands	5	–		
			TOTAL PRIZE MONEY . . £41				

Total for Horses, £1062

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[1] Given by Mr W. Mungall.

[2] *An animal that has won a President's Medal in another section in this Show shall not be eligible to compete for the Medal in this section.*

JUMPING COMPETITIONS

SPECIAL REGULATIONS

(See also the Regulations on pages 55 to 62)

1. Jumping Competitions will take place on the afternoons of Wednesday, Thursday, and Friday, the 10th, 11th, and 12th July; also on the evenings of Wednesday and Thursday.
2. *Entries* for each day's Competitions will close at the Secretary's Office in the Showyard at 6 P.M. on the preceding day. Entries are free for Evening Jumping, and may be received till the beginning of the Competition.
3. *Entry Fees.*—Wednesday, £1; Thursday and Friday, 10s. for each class.
4. *Accommodation* for jumping horses will be provided as follows: Covered shed in which to stand during the day free of charge; or, on application to the Secretary not less than ten days before the opening of the Show, stalls or loose-boxes will be provided at a charge (in addition to the Entry Fee) of £1 for a stall, and £1, 10s. for a loose-box, which must be paid along with the Entry Fee at the time of application.
5. Horses entered for jumping only need not enter the Showyard till 12 noon on the day of Competition, and may leave the Showyard at 6 P.M. each day.
6. *The Jumps* may consist of Single Hurdle, Gate, Double Hurdle, Wall, and Water Jump, power being reserved by the Society to alter these, as well as the Handicaps, as may be thought desirable.

Cl.		Fir	Sec	Thi	Fou	Fif
	WEDNESDAY.	£	£	£	£	£
1	Horse or Pony any height	20	15	10	5	3
	THURSDAY.					
2	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in Class 1	10	8	5	3	2
	FRIDAY.					
3	Horse or Pony any height, Handicap, hurdles and gate being raised 8 inches for the winner of the first prize, and 4 inches for the winner of the second prize in either of Classes 1 or 2—4 inches extra for the winner of the two first prizes in Classes 1 and 2	10	8	5	3	2
	Champion Prize for most points in Prizes with one or more horses in above Classes—First Prize to count five points; Second Prize, four points; Third Prize, three points; Fourth Prize, two points; and Fifth Prize, one point—the money to be evenly divided in the event of a tie	10	—	—		
	WEDNESDAY AND THURSDAY EVENINGS.					
	Horse or Pony any height (each evening)		4			

Total Prize Money for Jumping, £149

SHEEP

[1]BLACKFACE

Prince of Wales Gold Medal for best pen of Blackface Sheep

Entry Fees Members	*Entry Fees* Non-Members	*Class*		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
				£	£	£	£
10/-	15/-	84	**Tup above one shear**	12	8	4	2
10/-	15/-	85	**Shearling Tup**	12	8	4	2
10/-	15/-	86	**Ewe above one shear, with her Lamb at foot**	10	5	2	–
10/-	15/-	87	**Shearling Ewe or Gimmer**	10	5	2	–
			[2]**Best Shearling Blackface Tup** entered in Class 85, clipped on or after 1st April 1907, no part of the animal to be clipped prior to that date—Prizes, £10, £5, and £2.				
			TOTAL PRIZE MONEY . . £86				

CHEVIOT

Prince of Wales Gold Medal for best pen of Cheviot Sheep

Entry Fees Members	*Entry Fees* Non-Members	*Class*		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
10/-	15/-	88	**Tup above one shear**	12	8	4	2
10/-	15/-	89	**Shearling Tup**	12	8	4	2
10/-	15/-	90	**Ewe above one shear, with her Lamb at foot**	10	5	2	–
10/-	15/-	91	**Shearling Ewe or Gimmer**	10	5	2	–
			[3]**The Borthwick Challenge Cup**, value £25, for best Sheep in the Cheviot Classes.				
			TOTAL PRIZE MONEY . . £86				

BORDER LEICESTER

Prince of Wales Gold Medal for best pen of Border Leicesters

Entry Fees Members	*Entry Fees* Non-Members	*Class*		*Premiums* First	*Premiums* Second	*Premiums* Third	*Premiums* Fourth
10/-	15/-	92	**Tup above one shear**	12	8	4	2
10/-	15/-	93	**Shearling Tup**	12	8	4	2
10/-	15/-	94	**Ewe above one shear**	10	5	2	–
10/-	15/-	95	**Shearling Ewe or Gimmer**	10	5	2	–
			[4]**Prize of £10 for best pen of Border Leicester Sheep,** drawn from the ordinary Classes, registered or eligible for registration in the Border Leicester Flock-Book.				
			TOTAL PRIZE MONEY . . £86				

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[1] The Sinclair Scott Challenge Trophy, value 100 guineas, given by the late Mr R. Sinclair Scott of Burnside, for a Group of Sheep consisting of one aged ram, one shearling ram, one ewe and lamb, the lamb to be the produce of the ewe exhibited, and may be either a tup or ewe lamb, and to be judged as part of the group, and one gimmer, all to be bred by and the property of the exhibitor, or bred on the farm now in his possession and the property of exhibitor, and shown in the ordinary Classes; the Trophy to become the property of the exhibitor winning it three times with different sheep; lambs, shearling rams, and gimmers being eligible to compete again. The Society will give a Silver Medal, duly inscribed, commemorative of the event, to the winner on each occasion.

[2] Given by Mr C. Howatson of Glenbuck.

[3] Given by the Cheviot Sheep Society.

[4] Given by the Society of Border Leicester Sheep-Breeders.

SHEEP

HALF-BRED

Prince of Wales Gold Medal for best pen of Half-Breds

ENTRY FEES Mem	ENTRY FEES Non Memb	CL.		PREMIUMS	Sec	d £	£
10/-	15/-	96	Tup above one shear				
10/-	15/-	97	Shearling Tup	12			
10/-	15/-	98	Ewe above one shear	10			
10/-	15/-	99	Shearling Ewe or Gimmer	10			
			TOTAL PRIZE MONEY . . £86				

SHROPSHIRE

Prince of Wales Gold Medal for best pen of Shropshires

Mem	Non Memb	CL.			Sec	d £	£
10/-	15/-	100	Tup above one shear	6	4		
10/-	15/-	101	Shearling Tup	6	4		
10/-	15/-	102	Ewe above one shear	5	3		
10/-	15/-	103	Shearling Ewe or Gimmer	5	3		
			TOTAL PRIZE MONEY . . £44				

OXFORD-DOWNS

Prince of Wales Gold Medal for best pen of Oxford-Downs

Mem	Non Memb	CL.			Sec	d £	£
10/-	15/-	104	Shearling Tup	6	4	2	
10/-	15/-	105	Shearling Ewe or Gimmer	5	3	2	
			TOTAL PRIZE MONEY . . £22				

SUFFOLK

Prince of Wales Gold Medal for best pen of Suffolk Sheep

Mem	Non Memb	CL.			Sec	d £	£
10/-	15/-	106	Shearling Tup	6	4	2	–
10/-	15/-	107	Shearling Ewe or Gimmer	5	3	2	–
			[1]Best Suffolk Ewe in Class 107 bred in Scotland—£5				
10/-	15/-	108	[1]Three Ewe Lambs, uncoloured and untrimmed, except as to the squaring of the tail—£5, £3, and £2.				
			[1]Best Pen of Suffolk Ewe Lambs in Class 108 bred in Scotland—£5.				
			TOTAL PRIZE MONEY . . £22				

FAT SHEEP

Mem	Non Memb	CL.			Sec	d £	£
10/-	15/-	109	Three Fat Lambs, any breed or cross, dropped in the year of the Show	5	3	–	

Total Prize Money for Sheep, £440

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[1] Given by the Suffolk Sheep Society.

SHEEP

FAT SHEEP—*continued*

ENTRY FEES Members		CLASS		PREMIUMS First £	Second £	Third £
			[1]Best Pen of Cross-bred Lambs in Class 109 got by a Pure-bred Shropshire Tup—£7, £3.			
			[2]Best Pen of Lambs in Class 109 got by a Suffolk Tup, and out of Cheviot or Blackface Ewes—£5.			
			[2]Best Pen of Lambs in Class 109 got by a Suffolk Tup, and out of Border-Leicester, Half-bred, or Three-parts-bred Ewes—£5.			

SWINE

Prince of Wales Gold Medal for best pen of Swine

LARGE WHITE BREED

10/-	15/-	110	Boar	6	4	2
10/-	15/-	111	Sow	6	4	2
10/-	15/-	112	Pair of Boars, not above 8 months old	5	3	2
10/-	15/-	113	Pair of Gelts, not above 8 months old	5	3	2
			TOTAL PRIZE MONEY . . £44			

BERKSHIRE

10/-	15/-	114	Boar	6	4	2
10/-	15/-	115	Sow	6	4	2
10/-	15/-	116	Pair of Boars, not above 8 months old	5	3	2
10/-	15/-	117	Pair of Gelts, not above 8 months old	5	3	2
			TOTAL PRIZE MONEY . . £44			

Total Prize Money for Swine, £88

EXTRA STOCK

Animals not included in the Classes for Competition may be exhibited as Extra Stock, and may receive Awards as follows:—Very Highly Commended, or Highly Commended, carrying the Medium Silver Medal, or Commended, for which the Bronze Medal is given.

Animals entered as Extra Stock are eligible to compete for the President's Medals, whether former winners of these Medals or not.

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[1] Given by the Shropshire Sheep-Breeders' Association.

[2] Given by the Suffolk Sheep Society.

POULTRY

First Premium—ONE SOVEREIGN; *Second Premium*—TEN SHILLINGS. In each Class in which there are six or more entries, a Third Prize of Five Shillings may be awarded, provided there is sufficient merit in the pens. Three or more Commendations may also be given—thus, Very Highly Commended, Highly Commended, and Commended.

Champion Medals are offered as follows:—

1. Best Cock, any Variety.
2. Best Hen, any Variety.
3. Best Cockerel, any Variety.
4. Best Pullet, any Variety.
5. Best Pen of Ducks.
6. Best Pen of Geese.
7. Best Pen of Turkeys.

Aged Birds must have been hatched previous to, and Cockerels and Pullets in, the year of the Show.

	Class
DORKING—	
Coloured	1. Cock
	2. Hen
	3. Cockerel
	4. Pullet
Silver Grey	5. Cock
	6. Hen
	7. Cockerel
	8. Pullet
COCHIN-CHINA	9. Cock
	10. Hen
BRAHMAPOOTRA	11. Cock
	12. Hen
BRAHMA OR COCHIN	13. Cockerel
	14. Pullet
SCOTCH GREY	15. Cock
	16. Hen
	17. Cockerel
	18. Pullet
HAMBURG—	
Black	19. Cock
	20. Hen
Any other Variety	21. Cock
	22. Hen
Any Variety	23. Cockerel
	24. Pullet
PLYMOUTH ROCK	25. Cock
	26. Hen
	27. Cockerel
	28. Pullet
MINORCA	29. Cock
	30. Hen
	31. Cockerel
	32. Pullet
LEGHORN—	
White	33. Cock
	34. Hen
Any other Variety	35. Cock
	36. Hen
Any Variety	37. Cockerel
	38. Pullet
LANGSHAN	39. Cock
	40. Hen
LANGSHAN	41. Cockerel
	42. Pullet
ORPINGTON—	
Black	43. Cock
	44. Hen
	45. Cockerel
	46. Pullet
Buff	47. Cock
	48. Hen
	49. Cockerel
	50. Pullet
WYANDOTTE—	
Gold	51. Cock
	52. Hen
Silver	53. Cock
	54. Hen
Any Variety	55. Cockerel
	56. Pullet
INDIAN GAME	57. Cock
	58. Hen
	59. Cockerel
	60. Pullet
GAME—	
Old English	61. Cock
	62. Hen
Modern	63. Cock
	64. Hen
Any Variety, not including Indian	65. Cockerel
	66. Pullet
BANTAM—	
Game, any Variety, including Old English	67. Cock
	68. Hen
Any other Variety Bantam	69. Cock
	70. Hen
ANY OTHER RECOGNISED BREED OF POULTRY	71. Cock
	72. Hen
	73. Cockerel
	74. Pullet

	Class	
TABLE FOWLS—		
Any Breed or Cross, to be judged solely as Table Fowls, and without regard to fancy points	75.	Pair of Cockerels
	76.	Pair of Pullets
DUCKS—		
Aylesbury	77.	Drake
	78.	Duck
	79.	Drake (Young)
	80.	Duck (Young)
DUCKS—		
Rouen	81.	Drake
	82.	Duck
Any other Variety	83.	Drake
	84.	Duck
Any Breed (Aylesbury excepted)	85.	Drake (Young)
	86.	Duck (Young)
GEESE	87.	Gander
	88.	Goose
TURKEYS	89.	Cock
	90.	Hen

AMOUNT OF POULTRY PREMIUMS, £155, 15s

DAIRY PRODUCE

No Exhibitor to show more than one lot in any Class.

Class		Premiums. 1st. £	2nd. £	3rd. £	
1.	Powdered Butter, not less than 7 lb.	4	2	1	
2.	Fresh Butter, three 1-lb. rolls	4	2	1	
					£14
3.	Cheddar Cheese, 56 lb. and upwards—£6, £4, £2, £1				13
4.	Flat White Cheese, made according to any method, from a dairy where all the cheese are made flat, 40 lb. and upwards—£4, £2, £1				7
5.	Cheese, 14 lb. and under—£3, £2, £1				6
					£40

[ABSTRACT

ABSTRACT OF PREMIUMS.

(21 Champion Medals given by HIS GRACE THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T.)

GIVEN BY THE SOCIETY.

1. Prince of Wales Gold Medals	£280	0	0
2. Cattle	816	0	0
3. Horses	1062	0	0
4. Jumping	149	0	0
5. Sheep	440	0	0
6 Swine	88	0	0
7. Poultry .	155	15	0
8. Dairy Produce	40	0	0
9. Medals to Breeders, &c.	20	0	0
10. Prizes for Timber [1]	20	0	0
	£3070	15	0
Private Subscriptions	65	0	0
Given by the Society	£3005	15	0

CONTRIBUTED PRIZES.

1. The Shorthorn Society	£50 0 0			
*2. Sir George Macpherson Grant, Bart. . . .	50 0 0			
*3. The late Mr C. Macpherson Grant of Drumduan . .	50 0 0			
4. Polled Cattle Society	10 0 0			
5. Ayrshire Cattle Herd-Book Society . . .	10 0 0			
*6. Cawdor Challenge Cup	52 10 0			
7. Bequest by late Miss Murdoch	10 0 0			
8. Per Mr C. H. Scott Plummer	50 0 0			
9. Sir John Gilmour, Bart. .	25 0 0			
10. Hunters' Improvement Society	10 10 0			
11. Imperial Hunter Stud-Book Co.	10 0 0			
12. Captain Clayhills Henderson	27 0 0			
13. Hackney Horse Society .	10 0 0			
14. Polo and Riding Pony Society	15 0 0			
15. Mr W. Mungall . .	15 0 0			
16. Mr Charles Howatson .	17 0 0			
*17. The late Mr R. Sinclair Scott	105 0 0			
*18. Cheviot Sheep Society	25 0 0			
19. Society of Border Leicester Sheep-Breeders . .	10 0 0			
20. Suffolk Sheep Society	30 0 0			
21. Shropshire Sheep-Breeders' Association . . .	10 0 0			
22. Tweeddale Gold Medal	16 0 0			
		608	0	0
		£3613	15	0

[1] Grant to Royal Scottish Arboricultural Society for Prizes for Timber.
* Challenge Prizes.

JAMES MACDONALD, *Secretary*.

3 GEORGE IV. BRIDGE,
EDINBURGH, *Feb.* 1907.

The Society's Show for 1908 will be held at Aberdeen on the 21st, 22nd, 23rd, and 24th July.

APPENDIX B

LIST OF MEMBERS

OF

THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND

ARRANGED ACCORDING TO COUNTIES
AND SHOW DISTRICTS

1907

By the Charter of 1834 the Society consists of two classes, Ordinary and Honorary or Corresponding Members. The number of Honorary or Corresponding Members resident in the United Kingdom must not exceed twenty, but with power to the Society to elect as Honorary Associates persons resident abroad, not subjects of her Majesty, who may have been benefactors to the Society, or who are distinguished for their skill in Art or Science, provided that the number of such Foreign Associates shall not exceed twenty.

By a Bye-law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma were thereby eligible to be elected free Life Members of the Society. This Bye-law was rescinded in 1900.

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January, and June or July. It is not necessary that the proposer should attend the meeting.

Higher Subscription.—The Ordinary Annual Subscription is £1, 3s. 6d., and the Ordinary Subscription for Life-Membership is £12, 12s.; or, after ten annual payments have been made, £7, 7s.

Lower Subscription.—Proprietors farming the whole of their own lands, whose Rental on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Secretaries or Treasurers of Local Agricultural Associations, Factors resident on Estates, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a Subscription of 10s. annually, which may be redeemed by one payment of £7, 7s., and after eight annual payments of 10s. have been made, a Life Subscription may be purchased for £5, 5s., and after twelve such payments, for £3, 3s. Subscriptions are payable on election, and afterwards annually in January.

According to the Charter, "Any person elected an Ordinary Member of the Society who shall not have objected to his election, on the same being intimated to him by the Secretary, shall not be entitled to resign or withdraw his name as a Member of the Society, unless he shall have paid up his Life Subscription, or shall have previously settled and paid in Annual Contributions a sum equal to that fixed by the Society at the time of his election, to be paid by Members as the purchase of a Life Subscription in lieu and in redemption of the Annual Payments." The Life Subscription for a Member paying £1, 3s. 6d. is £12, 12s., and for a Member paying 10s., £5, 5s.

Members having Candidates to propose are requested to state whether the Candidate should be on the £1, 3s. 6d. or 10s. list.

Members of the Society receive the 'Transactions' free on application, and are entitled to consult the Chemist and Botanist at reduced rates—to apply for District Premiums—to report Ploughing Matches for the Medal—to free admission to the Showyard, and to exhibit Stock and Implements at reduced rates. Firms are not admitted as Members, but if one partner of a firm becomes a Member, the firm is allowed to exhibit at Members' rates.

Members having Candidates to propose are requested to send their names to James Macdonald, Esq., 3 George IV. Bridge, Edinburgh.

By a Resolution of the Directors, 2nd February 1887, the list of Members, arranged according to Counties, has been so made up that no Member shall vote in more than one Show District for the nomination of Directors. Members finding any mistakes are requested to report the same to James Macdonald, Esq., 3 George IV. Bridge, Edinburgh.

The following is the List of Counties constituting the Show Districts:—

PAGE

1. **Glasgow,** for the Counties of Argyll, Ayr, Bute, Lanark, and Renfrew,—

Argyll 5
Ayr 7
Bute 9
Lanark 10
Renfrew 14

2. **Perth,** for the Counties of Fife, Forfar (Western Division), Kinross, and Perth (Perth Show Division),—

Fife 17
Forfar (Western Division) 20
Kinross 22
Perth (Perth Show Division) 22

3. **Stirling,** for the Counties of Clackmannan, Dumbarton, Perth (Stirling Show Division), and Stirling,—

Clackmannan 27
Dumbarton 27
Perth (Stirling Show Division) 28
Stirling 30

4. **Edinburgh,** for the Counties of Edinburgh, Haddington, and Linlithgow,—

Edinburgh 32
Haddington 37
Linlithgow 39

5. **Aberdeen,** for the Counties of Aberdeen, Banff, Forfar (Eastern Division), and Kincardine,—

Aberdeen 40
Banff 44
Forfar (Eastern Division) 45
Kincardine 46

6. **Dumfries,** for the Counties of Dumfries, Kirkcudbright, and Wigtown,—

Dumfries 48
Kirkcudbright 51
Wigtown 53

7. **Inverness,** for the Counties of Caithness, Elgin, Inverness, Nairn, Orkney and Shetland, Ross and Cromarty, and Sutherland,—

Caithness 55
Elgin 55
Inverness 56
Nairn 59

Orkney and Shetland—

  Orkney 59
  Shetland 59
Ross and Cromarty 59
Sutherland 61

8. **Border District,** for the Counties of Berwick, Peebles, Roxburgh, and Selkirk,—

Berwick 62
Peebles 63
Roxburgh 64
Selkirk 66

England 67
Ireland 72
The Colonies 73
Foreign Countries 74
Members whose Residences are unknown 75
Diploma Holders, Free Life Members 77
Holders of First-Class Certificate in Forestry, Free Life Members 79

LIST OF MEMBERS

ARRANGED ACCORDING TO COUNTIES AND SHOW DISTRICTS.

*The Members marked * have been Presidents, and † Vice-Presidents.*

Admitted

* His Most Gracious Majesty THE KING. 1873

HONORARY MEMBERS.

1898*His Royal Highness The PRINCE OF WALES
1903 Clarke, Sir Ernest, 31 Tavistock Square, London, W.C.
1905 Craik, Sir Henry, K.C.B., 5A Deans Yard, Westminster, London
1905 Elliott, Sir Thomas H., K.C.B., Secretary, Board of Agriculture, London
1903 Ewart, Professor J. Cossar, M.D., F.R.S., University, Edinburgh
1903 Ogilvie, F. Grant, C.B., Assistant Secretary, Board of Education, London
1903 Plunket, Right Hon. Sir Horace, F.R.S., Department of Agriculture and Technical Instruction, Dublin
1903 Warington, R., F.R.S., High Bank, Harpenden, Herts

FOREIGN ASSOCIATES.

1903 Bang, Professor B., Copenhagen
1903 Saunders, Dr Wm., Director, Central Experimental Farm, Ottawa, Canada
1903 Stebler, Dr F. G., Zurich, Switzerland

1.—GLASGOW DISTRICT.

EMBRACING THE

COUNTIES OF ARGYLL, AYR, BUTE, LANARK, AND RENFREW.

ARGYLL.

Admitted
1898 Ainsworth, John Stirling, of Ardnaiseig, M.P., Kilchrenan
1903 Aldam, W. Wardie, of Ederline, Ford
1881 Allan, Alex., of Aros, Tobermory
1905 Allan, Bryce, Linndhu, Tobermory
1889 Anderson, Wm. D., Sylvan Villa, Oban
1889 Andrew, David, Southend, Campbeltown
1901 Andrew, Matthew, Drimvore, Glassary, Lochgilphead
1869†Argyll, The Duke of, K.T., Roseneath
1905 Armour, Robt. L., Machrihanish, Campbeltown

Admitted
1906 Armstrong, Thos. J. A., Glenborrodale, Acharacle, R.S.O.
1900 Ballantyne, Thomas, Kilmartin Hotel, Kilmartin
1899 Blackburn, Major Hugh, Annat, Corpach
1900 Bontein, James S., of Glencruitten, Oban
1905 Boyd, James, of Cariskey, Southend, Kintyre
1884 Boyd, William, Glenmorven, Drimnin, Oban
1905 Brown, Andrew, Auchallader, Bridge of Orchy
1901 Brown, Arch., Hotel Lochgair, Lochfyne
1899 Brown, Donald, Dunbeg, Connel Ferry

Admitted
1905 Bruce, Peter, Ach-na-cloich, Connell, Argyll
1881 Buchanan, Dr Alexander, Tiree, Tobermory
1905 Buchanan, Donald, Ballochendrain, Glendaruel, S.O.
1900 Buchanan, Frank H., Fanans, Taynuilt
1897 Bullough, Sir George, of Rum, Oban
1905 Bullough, Tom, of Fasnacloich, R.S.O.
1889 Cameron, Allan Gordon, of Barcaldine Castle, Letterwalton, Ledaig
1905 Cameron, Angus, Benmore, Kilmun
1905 Cameron, Duncan, Tervine, Kilchrenan
1898 Cameron, Duncan, Sheepknowe, Bunessan
1889 Campbell, Alex. James Henry, of Dunstaffnage, Oban
1894 Campbell, Colin George Pelham, of Stonefield, Tarbert
1875 Campbell, Capt. D., of Inverneil and Ross, Ardrishaig
1882 Campbell, Edward P., Captain, 42nd Highlanders, South Hall, Colintraive
1885 Campbell, Lt.-Col. H. Burnley, of Ormidale, Colintraive
1874 Campbell, John, of Kilberry, Argyllshire
1877 Campbell, John, Salen, Mull
1894 Campbell, John, Ardifuir, Kilmartin, Lochgilphead
1890 Campbell, Robt. C. Graham, of Shirvan, Lochgilphead
1905 Campbell-Wyndham, R. P. Bouverie, of Dunoon, Glengarr Heuse, Dunoon
1877 Clark, Andrew, Islay
1893 Clark, Francis William, of Ulva, Aros, N.B.
1897 Clark, John W., Bernice, Kilmun
1898 Colthart, Robert D., Achateny, Ardnamurchan, Oban
1906 Colvill, John, Rockbank, Campbeltown
1906 Cordiner,' Matthew, Balliemore, Lochgilphead
1899 Corson, Robt. H., Crigan, Appin, Argyllshire
1885 Corson, Thomas, Auction Mart, Oban
1901 Crawford, Robert, Upper Largie, Kilmartin
1884 Crerar, Peter C., Brackley, Dalmally
1870 Cuddon-Fletcher, Bernard James, of Dunans, Colintraive
1907 Cullen, Robert, Dunlossit Estate Office, Bridgend, Islay
1905 Dick, Matthew, Bank of Scotland, Campbeltown
1905 Dobie, John, Clydesdale Bank, Dunoon
1899 Downie, James MacAlpine, of Appin, Oban
1881 Duncan, R., Royal Hotel, Tigh-na-bruaich
1905 Edgar, James, Ri-Cruin, Lochgilphead
1905 Ellison, Francis Beaumont, Bragleenbeg, Kilninver, Oban
1893 Ferguson, Arch., Lochaline, Morven
1905 Fleming, John, Camquhart, Glendaruel, S.O.
1897 Fletcher, John A., Landale, Strontian
1874 Forsyth, James N. M., of Quinish, Tobermory
1898 Fraser, Chas. Jas. Roy, of Lochavich, Kilchrenan
1884 Fraser, Duncan, Hotel, Lochawe
1895 Fraser, Hugh, Largie Estate Office, Tayinloan
1901 Gardner, John Neilson, Dail-an-Rois, Corpach
1889 Gemmell, John, Dalrioch, Campbeltown
1891 Gillies, John, Barnacarry, Kilninver, Oban
1905 Gillies, Lachlan, Ardachaple, Colintraive

Admitted
1897 Gillies, Neill, Auchnashellach, Lochgilphead
1907 Gooch, Edward Sinclair, Torcastle, Banavie
1901 Graham, Alex., Tonrioch, Campbeltown
1900 Graham, Jas. E. M., Tarbert, Lochfyne
1889 Graham, Robt. C., of Skipness, Whitehouse
1899 Graham, Robert Francis, of Skipness, Whitehouse, Kintyre
1894 Greig, James, Chiskan, Campbeltown
1901 Guthrie, W. M., of Duart, M.P., Isle of Mull
1873 Hall, Allan, Tangy House, Kilkenzie, Kintyre
1906 Hall, James M., Tangy, Kilkenzie, Kintyre
1905 Hall, Stuart, Killean House, Tayinloan
1888 Hamilton, George, Crear, Kilberry
1899 Hartley, G. Wm., Hayfield, Kilchrenan
1896 Hay, Colin E., Ardbeg, Islay
1889 Hunter, James, Machribeg, Campbeltown
1857 Hunter, Wm., Lilybank, Campbeltown
1894 Inglis, George Erskine, Estates Office, Campbeltown
1905 Ironside, William, Columba Terrace, Oban
1907 Ker, Ronald Scott, Glenreasdell Mains, Whitehouse, Kintyre
1850 Lamont, James, of Knockdow, Greenock
1897 Laughton, John, Eallabus, Bridgend, Islay
1905 Leschallas, Captain John H. P., Glenfinart, Ardentinny, Greenock
1883 Lothian, Jas., Rockwood, Campbeltown
1906 Lothian, John, of Treshnish, Isle of Mull, Oban
1905 M'Alister, John, Ardyne, Toward
1905 MacArthur, Alaster, National Bank, Inveraray
1896 MacArthur, Alex., Banker, Oban
1905 M'Arthur, Archd., Castleton Farm, Lochgilphead
1905 M'Arthur, Neil, Balgreggan, Campbeltown
1861 M'Callum, John, Fairfield, Kirn
1905 M'Calman, Hugh, Monydrain, Lochgilphead
1907 MacColl, Donald, Ardgour, Argyllshire
1879 M'Coll, Duncan, Clachan House, Lismore, Oban
1898 M'Coll, Duncan, Kildalton, Port Ellen, Islay
1901 M'Cormick, Duncan, Fincharn, Ford, Argyllshire
1881 Macdiarmid, H., Island House, Tiree, Oban
1899 Macdiarmid, John A., Arichamish, Ford, Lochgilphead
1882 Macdiarmid, Robert, Corries, Lochawe
1905 Macdonald, A., Auchnashellach, Lochgilphead
1902 Macdonald, Harry L., of Dunach, Oban
1893 Macdonald, J. Ronald M., Largie Castle, Tayinloan
1905 MacDougall, Capt., of Dunollie, Oban
1899 M'Dougall, James, Tarbert, Argyllshire
1882 MacDougall, J. Patten, C.B., of Gallanach, Oban
1892 M'Dougall, Major S., of Lunga, Daill House, Lochgilphead
1898 Macfarlane, John, Cladich, Dalmally
1873 Macfarlane, Lewis, Invermay, Douglas Pier, Lochgoil
1883 MacGregor, Donald, Solicitor, Oban
1905 M'Intyre, Alex., Kilbridemore, Glendaruel, S.O.
1893 M'Intyre, John Alexander, Frackersaig, Lismore, Oban

Admitted
1869 MacKechnie, Jas., Blarcreen House, Taynuilt
1891 Mackenzie, J. H. Munro, of Mornish, Tobermory
1905 M'Lachlan, Hugh, Stroneskar, Lochgilphead
1886 Maclachlan, Jn., of Maclachlan, Inveraray (12 Abercromby Place, Edinburgh)
1907 M'Laine, Charles, 22 Alexandra Place, Oban
1870 Maclaine, M. G., of Lochbuie, Oban
1905 M'Laren, Malcolm, Hotel, Dalmally
1875 M'Latchie, W., Ballygreggan, Campbeltown
1906 Maclean, A. T. H., of Ardgour
1897 Maclean, Roderick, Gomitra, Aros, Isle of Mull
1849 Macleod, John N., of Kintarbert, Glensaddell, Campbeltown
1907 Macleod, J. Torquil M., Ardentrive, Kerrara, Oban
1882 M'Nab, Robert, Beaconsfield, Dunoon
1894 M'Nair, Archibald, Moy, Campbeltown
1897 M'Naughton, Duncan, Balino, Oban
1898 Macneal, Capt. Hector, of Ugadale, Campbeltown
1901 M'Neill, D., Lochhead, Ormsary, Ardrishaig
1905 M'Nicol, William, Garvie, Glendaruel, S.O.
1882 M'Phail, John, Ardura, Craignure, Mull
1891 Macpherson, Colin D., Corpach, Fort William
1907 Macrae, Kenneth, Seaforth, Oban
1906 M'Varish, Donald, Invercoe, Glencoe, R.S.O.
1891 M'Vean, Colin A., Kilfinichen, Pennyghael, Mull
1905 M'Vean, John, Connel Ferry
1903 Malcolm, Colonel, of Poltalloch, C.B., Lochgilphead
1875 Martin, Donald T., of Dunlossit, Port Askaig, Islay
1874 Masson, John, Tobermory
1905 Maxwell, Robert, Baraskomil, Campbeltown
1894 Melles, Joseph, Gruline, Aros, Isle of Mull
1861 Mercer, John, Ardnadam, Sandbank
1901 Miller, J. Neilson, Glendyne, Argyll Road, Dunoon
1901 Miller, Robert, Torbhlaren, Glassary, Lochgilphead
1905 Mitchell, Hugh, Seafield, Campbeltown
1889 Mitchell, James B., Aros, Campbeltown
1903 Mitchell, John, Killinochonoch, Lochgilphead
1905 Montgomery, James, M.R.C.V.S., Ardrishaig
1897 Morgan, Fred., of Glengorm, Tobermory (Remenham House, Avenue Road, Regent's Park, London)
1855 Morrison, Charles, of Islay, Bridgend
1897 Mundell, Hugh, Tarbert, Lochfyne
1877 Munro, D. H. C., of Kenlochlaich, Appin
1888 Munro, John, Ironmonger, Oban
1905 Murray-Allan, R. A., yr. of Glenfeochan, Kilmore, Oban
1852 Murray-Allan, T. W., of Glenfeochan, Kilmore, Oban
1888 Nicolson, Neil, Auchgoyle, Tigh-na-bruaich
1887 ORDE, Sir A. J. Campbell, of Kilmory, Bart., Lochgilphead
1900 Philip, W. W., Estate Office, Gigha
1889 Ralston, Gav., Kilmichael, Campbeltown
1885 Ralston, Robert, Estate Office, Isle of Coll

Admitted
1896 Ramsay, Iain, of Kildalton, Port Ellen, Islay
1882 Reid, Peter, Port Ellen, Islay—*Free Life Member*
1897 Reid, Robert M., Toward, Kyles of Bute
1892 Robertson, Alexander, Chemist, Oban
1899 Roedemer, Charles Steuart, Dunoon
1906 Ross, Alex., General Merchant, Kilmartin
1893 Scarlett, W. J. Yorke, of Gigha
1898 Seath, Alex., Isle of Rum, Oban
1907 Sellar, Mrs Craig, of Ardtornish, Morvern, Oban
1891 Shairp, Alex., Land Agent and Architect, Oban
1884 Shankland, William, Killicheran, Lismore
1906 Sinclair, Malcolm, Taraphocain, Fasnacloich, R.S.O.
1881 Smith, W. Anderson, Ledaig
1894 Stewart, Arch., Parkfergus, Campbeltown
1905 Stalker, P., Achadunan, Inveraray
1863 Stewart, Com. D., R.N., Knockrioch, Campbeltown
1881 Stewart, John Lorne, of Coll, Oban
1904 Stoddart-Maclellan, W., Melfort, Kilmelfort
1903 Struthers, Arch., Dunollieheg, Oban
1892 Stuart, Mrs E., Dalness, Glenetive, Taynuilt
1889 Sutherland, John D., Oban
1906 Sutherland, John N., Estate Office, Duart, Isle of Mull
1870 Tod, James, Rashfield, Kilmun
1875 Turner, A., Kilchamaig, Whitehouse, Kintyre
1900 Turner, Charles, Corrachaive, Dunoon
1898 Veitch, John, Fasnacloich, Ledaig
1905 Weir, A. M., Auchengarron, Glendaruel, S.O.
1905 Weir, James, Baligreggan, Campbeltown
1906 Weir, John, Gallowhill, Campbeltown
1905 Weir, Norman, Tigh-an-truish Hotel, Ardencaple, Kilninver, Oban
1876 Whyte, D. C., Crossaig, Kintyre
1899 Wigan, Lewis D., Kilmory, Lochgilphead
1899 Young, Robert, Knockrioch, Campbeltown
1887 Young, William, Drum, Campbeltown
1899 Younger, C. A. J., Benmore, Kilmun

AYR.

1882†AILSA, The Marquis of, Culzean Castle, Maybole
1897 Aird, David, 80 Portland Street, Kilmarnock
1902 Alexander, Wm., Alticane, Pinwherry, Ayrshire
1892 Allan, Henry, Ballochmyle, Mauchline
1895 Allan, James, Kirkland, Dalry, Ayr
1882 Alston, George, Loudoun Hill, Darvel
1907 Andrew, James, Muirhouse, Monkton
1897 Angus, Robt., Ladykirk, Monkton
1905 Angus, R. L., Lugar House, Lugar, Ayrshire
1899 Austin, Robert D. J. Mein, Blackelachrie, Barrhill
1897 Baird, J. G. A., Wellwood, Muirkirk
1870 Baird, John, Burnfoot Cottage, Falkland, Newton-on-Ayr
1899 Barr, Thomas, Monkland, Kilmarnock
1903 Beavan, Jim, Eglinton Kennels, Kilwinning
1897†Blair, Colonel Frederick G., of Blair, C.B., Dalry

Admitted	
1897	Blair, Robert, British Linen Co. Bank, Galston
1882	Bone, William, Shalloch Park, Girvan
1899	Boswell, J. D., of Garrallan, Cumnock (41 Northumberland Street, Edin.)
1900	Brackenridge, Alex., Onthank, Kilmarnock
1866	Brown, David, Banker, Maybole
1904	Brown, Francis Edward, Royal Bank, Maybole
1906	Bruce, William, Langholm, Dundonald
1870	Bruges, Edward C., Dalgig, New Cumnock
1907	Caldwell, David, jun., Pennyfadzeoch, Cumnock
1906	Caldwell, John, Springhill, Kilmarnock
1897	Cameron, Andrew, Clydesdale Bank, Newmilns
1894	Campbell, James Archibald, of Craigie, Ayr
1887	Campbell, W. K. H., of Nether Place, Mauchline
1904	Canch, Thos. Richard, Portland Estate Office, Kilmarnock
1906	Clark, Alex., Auchenlongford, Sorn
1857	Clark, William, Shawhill, Monkton
1905	Clark, William Donald, Currah, Girvan
1877	Cochrane, James, Cattle Market Hotel, Ayr
1899	Cochrane, John, Nethercraig, Crosshouse, Kilmarnock
1906	Coldwell, James, Cockhill, Dundonald
1902	Corbett, A. Cameron, of Rowallan, M.P., Kilmarnock
1897	Craig, James, Cunning Park, Ayr
1896	Crawford, Jn., Manraehead, Beith
1905	Crawford, Robt., Drumbeg, Maybole
1897	Crawford, Thomas, Dowhill, Girvan
1878	Cross, Alex., of Knockdon (19 Hope Street, Glasgow)
1901	Cuthbertson, John, National Bank Buildings, Kilmarnock
1889	Dempster, Jas. R., of Ladyton, Galston
1905	Dobbie, John, Alloway Street, Ayr
1903	Donald, John H., Sornbeg, Galston
1898	Donald, Thomas, Annandale, Kilmarnock
1899	Donald, William, Fardlehill, Kilmarnock
1899	Douglas, Thos. A., M.R.C.V.S., Kilmarnock
1907	Douglass, Mungo, Wester Hillhouse, Riccarton, Kilmarnock
1901	Drummond, Robert, Pocknave, Hurlford
1901	Drummond, R. J., West of Scotland Agricultural College, Kilmarnock
1887	Dunlop, And. T. L., Lyonston, Maybole —*Free Life Member*
1869	Dunlop, Gabriel, Castle Farm, Stewarton
1896	Dunlop, James, Midland, Kilmarnock
1906	Dunlop, James, Oldhall, Fenwick
1875	Dunlop, Quintin, Morriston, Maybole
1904	Dunlop, Quintin, jun., Greenan, Ayr
1897	Dunlop, William, Dunure Mains, Ayr
1889	Dunlop, Wm. Hamilton, of Doonside, Ayr
1907	Dykes, James, Hillhouse, Dundonald
1897*	EGLINTON and WINTON, Earl of, Eglinton Castle, Irvine
1889	Fergusson, John B., Balgarth, Ayr
1897	Forrest, Robert, Knockinlaw, Kilmarnock
1875	Foulds, A. R., of Clerkland, Stewarton
1891	Fraser, M. P., Rankinston, Ayr
1897	Gairdner, D. C., Union Bank, Kilmarnock
1901	Gairdner, Wm. Cecil, Union Bank, Kilmarnock
1898	Gemmell, Alexander, Solicitor, Ayr
1885	Gemmell, Andrew, Lugton Ridge, Beith
1875	Gemmel, G. C., Upper Whitehaugh Muirkirk
1904	Gemmell, William, Auctioneer, Kilmaurs
1904	Gibson, John, Dalscaith, Fenwick
1881	GLASGOW, The Earl of, Kelburn, Fairlie
1906	Goldie, David, Little Shewalton, Irvine
1894	Gray, William, Carmel Cottage, Kilmaurs
1890	Hamilton, Claude, Sundrum, Ayr
1853	Hamilton, Hugh, of Pinmore, Daljarrock, Ayrshire
1903	Hamilton, James, Langmuir House, Kilmaurs
1897	Hamilton, James, Nether Wellwood, Muirkirk
1865	Hamilton, J., Hafton, London Road, Kilmarnock
1889	Hannah, John M., Girvan Mains, Girvan
1902	Hay, John, 8 Rennie Street, Kilmarnock
1878	Hay, J. F. Dalrymple, Dunlop House, Dunlop
1872	Hazle, Alexander, Merchant, Ayr
1874	Henderson, Richard, Portland Estate Office, Kilmarnock—*Free Life Member*
1897	Hendrie, John, Union Bank, Galston
1897	Hendrie, Robt., Gilfoot, Newmilns
1865	Houldsworth, J. M., Ayr
1899	Houldsworth, W. T. R., Coodham, Kilmarnock
1876	Howatson, W. M. S., Carskeoch, Patna
1865†	Howatson, Chas., of Glenbuck, Glenbuck
1896	Howatson, Chas. Nile, yr. of Glenbuck, Glenbuck, N.B.
1897	Howie, James, Hillhouse, Kilmarnock
1897	Howie, John, 58 Alloway Street, Ayr
1857	Howie, John, Hurlford, Kilmarnock
1894	Howie, M. G., Law Farm, Dreghorn
1889	Howie, Thomas, Fairfield Mains, Monkton, Ayr
1899	Howie, Thos., jun., Maxwood, Galston
1897	Howie, William, Burnhouses, Galston
1903	Hunter, Arch., Implement Works, Maybole
1867	Hunter, David, 3 Barns Terrace, Ayr
1899	Hunter, John S., Foulton, Monkton
1895	Hunter, Matthew, Adamhill, Craigie, Kilmarnock
1905	Hunter, R. H., Knocklandside, Kilmaurs
1907	Hussey-Freke, A. Eyre, Annick Lodge, Irvine
1897	Hyslop, William, Knockyloid, Barrhill
1904	Hyslop, William, of Bank, New Cumnock
1895	Inglis, Chas. D., Stair House, Tarbolton Station
1877	Inglis, Robert, Loveston House, Girvan
1885	Johnstone, James, Alloway Cottage, Ayr
1888	Kennedy, James, of Doonholm, Ayr
1902	Kennedy, Norman, Doonholm, Ayr
1895	Kennedy, Roland F., of Finnarts, Glenapp, Ballantrae
1897	Kerr, John, Collennan, Troon
1897	Kerr, William, Houdstone, Girvan
1896	Kilpatrick, James, Craigie Mains, Kilmarnock
1889	King, Robert A., Ayr
1897	Knox, Sir James, Place, Kilbirnie
1897	Laidlaw, T. K., Barra House, Largs
1895	Lees, Robert, Lagg, Ayr
1907	Leggat, John Morison, Portland Estate Office, Kilmarnock
1865	Lindsay, John, Semple House, Stewarton
1895	Lindsay, Thomas C., Aitkenbrae, Monkton, Ayrshire
1889	Littlejohn, James, Genoch, Ayr
1897	M'Candie, Donald, Ayr Road, Cumnock
1874	M'Connell, Wm., of Knockdolian, Girvan
1905	M'Cubbin, Wm. D., Lochlands, Maybole

Admitted
1906 M'Intyre, Edward, Park View Stud Farm, Giffen, Beith
1906 M'Intyre, James, Park View Stud Farm, Giffen, Beith
1887 M'Jannet, Archibald C., Irvine
1905 M'Kay, Thomas, Springbank, Monkton, Ayr
1896 Mackie, Peter Jeffrey, Glenfairn Lodge, Ayr
1906 Mackinnon, Thos. Neil, of Lanfine, New Milns
1877 Marshall, John, Implt. Maker, Maybole
1899 Maxwell, William, Sparnelbank, Galston
1896 Meikle, John, Auchincruive Estate Office, Mounthamilton, Ayr
1886 Middlemas, Wm., Solicitor, Kilmarnock
1903 Middleton, James, Estate Office, Braehead, Kilmarnock
1897 Millar, William, Nile Court, Ayr
1893 Mitchell, James, Middlefield, Muirkirk
1897 Mitchell, Matthew, Milton, Galston
1906 Mitchell, William, Grougar Mains, Kilmarnock
1893 Morton, Alexander, Gowanbank, Darvel
1892 Morton, William, Highbowhill, Newmilns
1897 Muir, Gilbert, Knockdon, Maybole
1897 Murchland, William, Bank Street, Kilmarnock
1897 Murray, John, Carston, Ochiltree
1904 Neill, James, Barleith, Hurlford, Ayrshire
1900 Neill, Thomas, Shawhill House, Hurlford, Kilmarnock
1897 Neilson, Walter, Ewenfield, Ayr
1906 Nisbet, James, Implement Maker, Dundonald
1884 Niven, Richard, Airlie, Ayr
1870 Oswald, Rich. A., of Auchincruive, Ayr
1897 Page, Andrew D., Culzean Home Farm, Maybole
1907 Paterson, Wm., Wellpark, Kilmarnock
1897 Paton, A. B., Hareshawmuir, Kilmarnock
1888 Paton, Hugh (W. Samson & Co.), Kilmarnock
1899 Paton, R. Johnston (W. & T. Samson), Kilmarnock
1897 Pearson, J. M., C.E., 5 John Dickie Street, Kilmarnock
1900 Pollock, Alex., Tarbolton
1905 Pollock, Andrew, Engineer, Mauchline
1889 Pollock, R. M., of Middleton, Ayr
1895 Reid, David H., Engineer, Ayr
1898 Richmond, Robt., c/o George Richmond, 13 Heathfield Road, off Prestwick Road, Ayr
1901 Robertson, Alex. B., The Dean Road, Kilmarnock
1902 Robertson, Philip, M.R.A.C., Sandhills, Monkton, Ayrshire
1899 Roxburgh, John, Grain Merchant, Mauchline
1906 Scott, C. C., of Halkshill, Largs
1906 Scott, David, Dumfries House, Cumnock
1903 Scott, Frank, Dumfries House Mains, Cumnock—*Free Life Member*
1905 Scott, Robt., Boghead, Girvan
1893 Shaw, D. W., 5 Wellington Square, Ayr
1906 Shaw, Jas. Edward, County Clerk, Ayr
1898 Shields, Major J., Glenrosa, Newmilns
1903 Smith, John, Kilmaurs Mains, Kilmaurs
1889 Smith, Robert, Sheilds, St Quivox, Ayr
1897 Smith, Robert, The Grange, Kilmarnock
1880 Smith, Thomas, The Castle, Maybole
1906 Smith, William, Brownlee, Dundonald
1882 Somervell, James, of Sorn, Mauchline
1879 Speir, Robert, Roebank, Largs

Admitted
1906 Spiers, John, Dyke, Symington, Ayr
1905 Steel, John, Alton Albany, Barr
1904 Steele, John, Shaw, Kilmaurs
1895 Steven, John, Purroch, Hurlford, Kilmarnock
1885 Stevenson, Allan, Architect, Ayr
1907 Stevenson, A. M., Jeanfield, Symington, Kilmarnock
1888 Stevenson, David, Silverwood, Kilmarnock
1906 Stevenson, Robt., Boghead, Galston
1888 Stevenson, John, Woodland, Girvan
1894 Tannahill, Robert D., National Bank Buildings, Kilmarnock
1876 Taylor, H., Kaimshill, Hurlford, Kilmarnock
1906 Taylor, William, Fortacres, Dundonald
1882 Thornycroft, J. B., Netherplace, Mauchline
1886 Tivendale, Wm. D., Burnhouse, Galston
1904 Turner, Fred. John, jun., Cessnock, Galston
1884 Turner, J. H., Portland Estate Office, Kilmarnock
1904 Tyre, James, Templeton, Dundonald
1867 VERNON, Hon. G. R., Auchans House, Kilmarnock
1887 Wallace, H. R., Cranston Lodge, Ayr
1875 Wallace, Robt., Auchenbrain, Mauchline
1895 Wallace, William, Cattle Dealer, Mauchline
1903 Wardrop, Patrick, Old Garlaff, Cumnock
1897 Watson, Alex., Barboigh, Sorn, Galston
1868 Weir, W., of Kildonan, Shewalton, Dreghorn
1889 Whyte, Robert, East Raws, Kilmarnock
1882 Willison, Alex., Easterhill, Dalry
1873 Willison, George, Carsehead, Dalry
1906 Wilson, Jas., Ashmark, New Cumnock
1897 Wilson, Robert, jun., Westwood, Dunlop
1905 Woodburn, Robt., Whitehill, Hurlford
1884 Wyllie, Alex., Holmbyre, Dalry
1903 Wyllie, James, Mayfield, Stevenston
1903 Young, Alex., Muirhouse, Crosshouse, Kilmarnock
1898 Young, David, Hutton Park, Largs
1907 Young, Hugh, Newfield Mains, Dundonald
1896 Young, H. S. M., Heathfield, Irvine
1901 Young, James, Peatland, Dundonald
1901 Young, William, Skerrington Mains, Hurlford

BUTE.

1870 Allan, James, Balnacoole, Shiskine, Arran
1897 Bannatyne, John, The Hotel, Lamlash
1907 Brown, William, Shedock Farm, Shiskine, Arran
1903 BUTE, Marquis of, Mount Stuart, Rothesay
1905 Crawford, Peter, Torrylinn, Kilmorie, Arran
1897 Crawford, Robert, Glenscorrodale, Lamlash
1889 Dickie, Wm. P., Cranslagvourty, Rothesay
1897 Douglas, A. H., Arran Estates Office, Brodick
1897 Fisher, Jas., Grain Merchant, Rothesay
1900 Forsyth, R. W., Corrie, Arran
1889 Gilmour, Thomas, Kilchattan Tile Works, Rothesay
1897 Hunter, William, Glenkiln, Lamlash
1906 Inglis, Wm., Forester, Cladoch, Brodick
1902 Lochhead, Thomas, Gildavanan, Rothesay

Admitted
1889 M'Alister, Robert, Mid Ascog, Rothesay
1889 MacAlister, James, Meikle Kilmory, Rothesay
1889 Macfie, Hugh, Ardbeg, Rothesay
1889 Macfie, John, Stratford, Ardbeg, Rothesay
1881 M'Intyre, William, Mount Stuart, Rothesay
1878 Mackay, Arch. M., Bruchag, Rothesay
1900 Mackay, John, Barone Park, Bute
1900 M'Millan, Alister, Lochranza, Arran
1876 M'Pherson, Don., Queen's Hotel, Rothesay
1907 Martin, John G., Brandon, Brodick
1902 Martin, Mrs J. G., Brandon, Brodick
1906 Montgomery, Alex., Auchinteerie, Rothesay
1897 Morton, John, Machrie, Shiskine
1897 Robertson-Fullarton, A. L. F., of Kilmichael, Brodick (201 Bath Street, Glasgow)
1907 Speirs, Alex. C., Clachaig, Kilmorie, Arran
1906 Stuart, Henry Campbell, Rhubodach, Colintraive
1902 Sweet, J. B., Bank of Scotland, Lamlash
1887 Wallace, John, Glenkill, Lamlash

LANARK.

1897 Aikman, Colonel Thos. R., The Ross, Hamilton
1906 Aitkenhead, George, Lochinch, Govan
1875 Alexander, Jas., 145 North Street, Glasgow
1908 Alexander, James Y., 19 Hope Street, Glasgow
1864 Allan, Alex., Waddiefield, Hamilton
1906 Allison, Thomas, Carnwath Mill Farm, Carnwath
1905 Alston, James T. R., Hyndford, Lanark
1870 Andrew, W. J., Banker, Coatbridge
1907 Baillie, Robt., Morningside Farm, New Mains
1887 Bain, W. P. C., Lochrin Iron Works, Coatbridge
1906 Baird, Douglas, Torrance Hotel, East Kilbride
1905 Baird, William, Gallowhill, Carmunnock
1906 Ballantyne, James, Blythbank, Dolphinton
1905 Ballantyne, James, Straven House, Carluke
1907 Barr, Andrew, Headmuir, Carluke
1886 Barr, Duncan C., Factor, Hamilton
1908 Barr, James, British Linen Co. Bank, Carluke
1905 Barr, John Bent, of Blackwood, Kirkmuirhill
1905 Barrie, James, of Mossplatt, Carstairs
1908 Bartleman, Archd. Blythe, Dolphinton
1882 Beckitt, C. R., Rockvilla Oil Mills, Port Dundas
1900 Begg, Hugh, V.S., East Kilbride
1882 Bertram, Major Wm., of Kersewell, Carnwath
1906 Black, John, Roberton Mains, Dolphinton
1900 Blair, Alex., 198 West George Street, Glasgow
1900 Blair, David, Mauldslie Mains, Carluke
1900 Bouglas, Henry Brown, Banker, Carluke
1905 Boreland, John, Tile Manufacturer, Stonehouse
1900 Boyd, Gavin, Newhouse, Lanark
1904 Braes, Andrew M., Biggarshiells, Biggar

Admitted
1881 Brock, H., V.S., 118 North Street, Glasgow
1906 Brown, Harold G., *of Cormiston*, Biggar
1898 Brown, James, Merryton, Hamilton
1891 Brown, John, Hillhead, Airdrie—*Free Life Member*
1906 Brown, Joseph, High Merrtyon, Larkhall
1897 Brown, Peter S., Bothwell Park, Bothwell
1896 Brown, Robert, Craighead, Bothwell
1898 Brown, William D., Photographer, Lanark
1901 Brownlie, John, Garrion Grain Mills, Wishaw
1905 Buchanan, James, 65-67 Elcho Street, Graham Square, Glasgow
1876 Buchanan, Capt. J. R. G., of Scotstone, Eastfield House, Cambuslang
1900 Cadzow, James, Stonehill, Crawfordjohn, Abington
1884 Cadzow, Robt., Weston, Dunsyre, Carstairs Junction
1905 Calderwood, Andrew, Righead, East Kilbride
1905 Caldwell, James C., Hollylea, Craighead Road, Govan
1897 Cameron, John J. (A. & J. Main & Co.), Clydesdale Ironworks, Possilpark, Glasgow
1904 Campbell, James (Campbell Gas Engine Co.), 104 Bath Street, Glasgow
1894 Carmichael, M. T., of Eastend, Thankerton
1905 Carnegie, Wm., 47 St Vincent Street, Glasgow
1905 Carruthers, Andrew, Nethertown, Auchenheath, Hamilton
1899 Carruthers, James Richardson, 70 King Street, Tradeston, Glasgow
1905 Chapman, Robert, Johnston Farm, Gartcosh
1906 Chapman, William A., Meadowhead, Airdrie
1882 Chapman, William W., Meadowhead, Airdrie
1898 Chislett, Charles, Chemist, Lanark
1857 Christie, T. C., of Bedley, Chryston
1889 Clark, Alexander, Todlaw, Lesmahagow
1869 Clark, Mathew, 39 Westbourne Gardens, Kelvinside, Glasgow
1905 Clark, W. S., Thornhill, Wishaw
1869 Clarke, John, Hamilton
1898 Clarkson, James, Prett's Mill, Lanark
1888 Clement, And., Cheese Merchant, Glasgow
1899 Cochrane, James, Brownside, Strathaven
1890 COLEBROOKE, Lord, of Crawford, Abington
1874 Colquhoun, Rev. J. E. Campbell, of Killermont, Maryhill
1905 Connell, Matthew, Agricultural Implement Maker, Carmunnock
1905 Connell, Matthew, jun., Agricultural Implement Maker, Carmunnock
1876 Coubrough, Wm., Sornfallow, Wiston, Biggar
1873 Cowan, James, 23 St Vincent Place, Glasgow
1892 Cowie, W. R., 93 Hope Street, Glasgow
1905 Craig, A. Blackburn, 97 Maxwell Drive, W., Bellahouston, Glasgow
1888 Craig, John, High Ploughland, Darvel
1884 Cranston, Stuart, 28 Buchanan Street, Glasgow
1897 Crichton, David, Bank of Scotland, Coatbridge
1905 Cromb, John Burns, Clerk of Works, The Palace, Hamilton

Admitted
1906 Cross, P. A. Munro, 14 Woodlands Terrace, Glasgow
1903 Cross, Wm. C., 19 Hope Street, Glasgow
1907 Cruckshank, John Erskine, 217 St Vincent Street, Glasgow
1898 Crum, William Graham, Thornliebank, Glasgow
1905 Cumming, James, Grain Merchant, Lanark
1897 Curr, Wm. Henry, W.S., 226 West George Street, Glasgow
1870 Davidson, Hugh, of Braedale, Lanark
1894 Davidson, Wm., Gateside, Douglas
1899 Dawson, Wm. (Anderston Brewery), 79 Hill Street, Glasgow
1895 Dennistoun, A. H. O., of Golfhill, Glasgow (Glenmore, Aviemore)
1905 Dick, John, Carnbroe Mains, Bellshill
1884 Dick, John P., c/o M'Clure, Naismith, & Brodie, 77 St Vincent Street, Glasgow
1899 Dickie, Robert, c/o J. & W. Wallace, 279 Gallowgate, Glasgow
1905 Dickie, Wm., sen., Victoria Works, East Kilbride
1905 Dickson, Andrew, Castlehill, Carmunnock
1905 Dickson, John B., Auchren, Lesmahagow
1905 Dobie, Robert, Garrion Haugh, Wishaw
1905 Donald, George, Braehead, Strathaven
1904 Donald, John, 36 North Wallace Street, Glasgow
1905 Douglas, Charles, Auchlochan, Lesmahagow
1906 Duncan, George T. (Tangyes, Ltd.), 111 Hope Street, Glasgow
1889 Dunn, Richard, Udston, Hamilton
1869 Dykes, J., jun., 162 Buchanan Street, Glasgow
1905 Dykes, Thomas, Priestgill, Strathaven
1887 Elliot, William, Auction Mart, Lanark
1900 Ferguson, Alex., of Clelland, Clyde Chambers, 63A St Vincent St., Glasgow
1897 Ferguson, James, Butcher, St George's Cross, Glasgow
1903 Findlater, George, Jerviswood Mains, Lanark
1888 Findlay, John, Gonar, Abington, N.B.
1884 Findlay, John, Springhill, Baillieston
1897 Findlay, John W., Estates Office, Bank Street, Airdrie
1898 Findlay, M. F., 19 Cadogan Street, Glasgow
1861 Fleming, Alex., Raith, Bothwell
1900 Fleming, Alex., Wolfclyde, Biggar
1899 Fleming, And., West Mains, Newbigging, Carnwath
1867 Fleming, David, Avonmill, Hamilton
1888 Fleming, David, Castleton, Rutherglen
1905 Fleming, Jas., Meadowflat, Thankerton
1882 Fleming, James, Muirside, Carmunnock
1870 Fleming, J., Meadowbank Cot., Strathaven
1905 Fleming, Stephen, Raith Farm, Bothwell
1905 Fleming, William, Bogton, Torrance
1905 Fleming, William, Fisherton, Rutherglen
1905 Fleming, William, Corbiehall, Lanark
1882 Fleming, Wm., Windlaw, Carmunnock
1895 Fleming, William, Calla, Carnwath
1905 Forrest, James, Woodhall, Bishopbriggs
1906 Forrest, James F., Woodhall, Bishopbriggs
1903 Forrest, John, Brewshott, Carnwath
1906 Forrest, Mat. Harry, Woodhall, Bishopbriggs
1907 Forsyth, R. W. Hillend, Roberton, Abington

Admitted
899 Fraser, D. Speirs, 15 Eglinton Street, Glasgow
1899 Fraser, Geo. J. J. H. G., Factor, Dalzell Farm, Motherwell
1877 French, James, Netherton, Abington
[illegible]3 Galloway, A. W., Molassine Co., Ltd., 125 Hope Street, Glasgow
1893 Galloway, Thomas, Balgray House, Kelvinside, Glasgow
1900 Galloway, Wm., Braxfield Road, Lanark —*Free Life Member*
1905 Garraway, Andrew B., Law Muir, East Kilbride
1878 Gibb, John, Midtown, Carluke
1897 Gibson, Richard, Kirkton St., Carluke
1905 Giffen, Andrew, Baltic Chambers, 3 Cadogan Street, Glasgow
1905 Giffen, W. R., Baltic Chambers, 3 Cadogan Street, Glasgow
1891 Gilchrist, John, Orbiston Mains, Bellshill, Glasgow
1905 Gillies, Alex., North Brackenridge, Lesmahagow
1877 Gillies, Wm., 23 University Gardens, Glasgow
1888 Gilmour, Allan, of Eaglesham, Glasgow
1882 Gilmour, Arthur, Crosshill, East Kilbride
1905 Gilmour, John, 24 Pollok Street, Glasgow
1901 Glen, Robert, Carlston, Kelvinside, Glasgow
1894 Glen, William, 32 Berkeley Terrace, Glasgow
1877 Goff, Dr Bruce, The Lindens, Bothwell
1887 Goodwin, John, Clydeview, Motherwell
1893 Gordon, Henry Erskine, of Aikenhead, Cathcart
1905 Goulding, Joseph, Dalpatrick, Carluke
1883 Gow, Andrew, Factor, Wishaw
1888 Graham, William, 6 Royal Crescent, W., Glasgow
1873 Grahame, Jas., Western Club, Glasgow
1907 Gray, John, New Stevenston, Holytown
1867 Greenshields, J., West Town, Lesmahagow
1906 Greenshields, James John, of Kerse, Lesmahagow
1907 Greenshields, John B., West Town, Lesmahagow
1897 Grierson, Adam, New Cross, Strathaven
1893 Gunn, Edmund J., 186 West George St.,
1883 Gunn, John, 298 Dennistoun Gardens, Cumbernauld Road, Glasgow
1897 Guthrie, D. W., 37 Kingsborough Gardens, Glasgow
1884 Haddow, Robert, Castle of Crawford, Abington
1906 Hamilton of Dalzell, Lord, Dalzell, Motherwell
1895 Hamilton, C. G. Henderson, of Dalserf, Netherburn
1897 Hamilton, D., M.R.C.V.S., Bourtreehill, Hamilton
1889 Hamilton, Gavin, B. L. Co. Bank, Lesmahagow
1896 Hamilton, George L., 25 Robertson St., Glasgow
1897 Hamilton, James, Aldersyde, Uddingston
1905 Hamilton, James, Shawton, Chapelton, Hamilton
1869 Hamilton, James, Avondale, Albany Drive, Lanark
1881 Hamilton, James A., 11 Hayburn Street, Partick
1906 Hamilton, James Brown, Poniel, Douglas
1905 Hamilton, John, Deadwaters, Kirkmuirhill
1900 Hamilton, John, Mains, East Kilbride

Admitted
1870 Hamilton, John Nisbet, Coulter, Biggar
1905 Hamilton, Matthew G., Woolfords, Cobbinshaw
1893 Hamilton, Robert, Low Motherwell, Motherwell
1905 Hamilton, Samuel, National Bank, Carluke
1897 Hamilton, T. B., M.R.C.V.S., 183 Queen's Drive, Glasgow, S.S.
1906 Hamilton, Wm., Drumclog, Strathaven
1905 Hamilton, William, Easterseat, Carluke
1905 Hamilton, William, Moat Mains, Lesmahagow
1903 Harper, P. Rankin, Permanent Nitrate Committee, 191 West George Street, Glasgow
1871 Harris, William, 1 Edmiston Drive, Ibrox, Glasgow
1897 Hart, P. Campbell, C.E., 134 St Vincent Street, Glasgow
1897 Hastie, David, Stonefield Farm, Blantyre
1905 Hastie, John, Eddlewood, Hamilton
1905 Hastie, Peter, Stonefield, Blantyre
1905 Henderson, Joseph, Meikle Dripps, Thorntonhall
1906 Henderson, Robert Holmes, Cornsilloch, Netherburn, Hamilton
1897 Hill, Thos., 66 Robertson St., Glasgow
1901 Hope, Thos., South Brownhill, Strathaven
1898 Howatson, R. B., 180 West Regent Street, Glasgow
1897 Howie, Robert (P. & R. Fleming & Co.), St Germains, Bearsden, Glasgow
1904 Howie, Robt., 21 Hope Street, Glasgow
1905 Hunter, Alex. N., 89 Mitchell Street, Glasgow
1869 Hunter, William, Craighead, Abington
1896 Imrie, Peter, Blackhill, Maryhill, Glasgow
1878 Inch, John, Howburn, Walston, Biggar
1855 Jack, Robt., Banker, Motherwell
1899 Jack, Robt., Implement Agent, Hyndford Place, Lanark
1897 Jackson, George, Woodhead, Chryston, Glasgow
1900 Jardine, W. C., 20 Doune Terrace, North Kelvinside, Glasgow—*Free Life Member*
1903 Johnston, George, jun., Potato Merchant, Airdrie
1905 Johnston, James, Allerstocks, Strathaven
1903 Johnstone, Robt., jun., Turnberry, Cardonald, nr. Glasgow
1893 Kennedy, M. H., 23 Kingsborough Gardens, Kelvinside, Glasgow
1899 Kerr, Alex. Leopold, 1 Westbank Quadrant, Hillhead, Glasgow
1888 Kerr, James, Bloomgate, Lanark
1905 Kerr, Matthew, Estate Office, Hamilton
1902 Kerr, Norman M., 13 Atholl Gardens, Kelvinside, Glasgow
1857 Kerr, Robert, 1 Westbank Quadrant, Hillhead, Glasgow
1899 Kerr, Thomas B. B., 1 Westbank Quadrant, Hillhead, Glasgow
1901 Kerr, Wm. Holmes, 79 St George's Place, Glasgow
1900 King, John W., yr. of Campsie, Stanmore, Lanark
1869 King, Robert, Levernholm, Hurlet
1905 Knox, John, North Hill of Dripps, Thorntonhall
1906 Kufeke, Hans F., c/o Nutrimol Feed Co., 67 Hope Street, Glasgow
1907 Kirkwood, Charles, F.S.I., 67 West Regent Street, Glasgow
1891 Laidlaw, John, 98 Dundas Street, Glasgow, S.S.

Admitted
1882 Lamberton, Andrew, Sunnyside Works, Coatbridge
1884 LAMINGTON, Lord, Lamington House
1895 Lawrie, James, West Newton, Strathaven, Lanarkshire
1896 Lawrie, John M., 204 Elliot Street, Glasgow
1902 Lawson, Quintin Y., 37 West George Street, Glasgow
1904 Leadbetter, Thos. G., of Stobieside, Edmonston, Biggar
1893 Leiper, Robert, Yardbent, Strathaven
1872 LOCKHART, Sir S. M., of Lee and Carnwath, Bart., Lanark
1870 Lockhart, Wm. Eliott, of Cleghorn, Lanark
1906 Logan, John, 197 Dumbarton Road, Glasgow
1898 Logan, Robert J., Newmains, Carnwath
1885 M'Alpine, A. N., Glasgow and West of Scotland Technical College, 6 Blythswood Square, Glasgow—*Botanist to the Society*
1905 M'Arthur, John, 202 Hunter Street, Glasgow.
1905 MacAulay, John, Rogerton, East Kilbride
1868 M'Call, Principal J., Veterinary College, Glasgow
1906 MacColl, Duncan, 80 Paisley Road West, Glasgow
1899 M'Cowan, Robert, Bank of Scotland, Strathaven
1899 M'Culloch, David, The Inn, Forth, Lanarkshire
1902 M'Cutcheon, James, F.C.S., 6 Blythswood Square, Glasgow
1888 Macdonald, Donald, c/o J. W. Macdonald, 51 Ashton Terrace, Hillhead, Glasgow
1906 Macdonald, D., Kilbucho House, Biggar
1884 M'Farlane, John, 151 North Street, Glasgow
1905 M'Feat, John, Abbotshaugh, Pollokshields, Glasgow
1897 MacGregor, James (P. & R. Fleming & Co.), Argyle Street, Glasgow
1872 M'Indoe, James, Stromecraig, Dunoon
1884 M'Intosh, James, 6 Barrington Drive, Glasgow
1896 M'Kinlay, Robert, Hillhouse, Sandilands, Lanark
1894 M'Kirdy, W. A. Scott, of Birkwood, Lesmahagow
1873 M'Lachlan, Colin, 8 Morriston Gardens, Bank Street, Cambuslang
1876 Maclae, A. Crum, of Cathkin, 149 St Vincent Street, Glasgow
1905 M'Lean, Arch., Midtown of Blackwood, Lesmahagow
1883 MacLellan, Robert, Conservative Club, Glasgow
1900 M'Leod, William, Rosebank, Maryhill
1896 M'Meeken, James, Mosspark, Dumbreck, nr. Glasgow
1886 M'Min, Thomas M'C., 76 Hill Street, Glasgow
1882 M'Neilage, A., 93 Hope Street, Glasgow
1896 M'Neill, John, 1 Great Western Terrace, Glasgow
1875 M'Pherson, D., 21 Onslow Square, Dennistoun, Glasgow
1906 M'Quat, W. W., V.S., Biggar
1884 M'Queen, Hope, Midlock, Abington
1906 M'Sorley, P., 44 Jamaica Street, Glasgow
1879 Main, R. R. (A. & J. Main & Co.), Possil Park, Glasgow
1900 Mair, John, Carrick Lodge, Mount Vernon, Lanarkshire

Admitted
1904 Maltman, W. P., 19 Hope Street, Glasgow
1899 Marshall, Arch., Auctioneer, Carluke
1889 Marshall, James, Airbles, Motherwell
1897 Marshall, Peter T. (Jack & Sons), 20 Graham Square, Glasgow
1906 Marshall, Richard, Whitecraighead, Cleland, Motherwell
1906 Martin, James, Burnside, Strathaven
1906 Martin, John Douglas, 19 Hope Street, Glasgow
1898 Martin, Robert, Commercial Bank, Lauriston, Glasgow
1905 Maxwell, David, Clydesdale Hotel,
1906 Meikle, James, Netherlea Farm, Lanark
1905 Meikle, Thomas, Farme, Glassford, Strathaven
1884 Millar, John, 16 St Vincent Place, Glasgow
1892 Millar, John, Fern Hill, Cathkin, Rutherglen
1904 Miller, J. C., 133 West George Street, Glasgow
1906 Milne, James, Carstairs Mains, Carstairs Junction
1907 Mitchell, David, 24 St Vincent Place, Glasgow
1885 Mitchell, James, Auchengray House, Airdrie
1905 Mitchell, James, Muirhouse, Kirkmuirhill
1894 Mitchell, John, 18 Shaftesbury Street, Glasgow
1888 Mitchell, Robt., M.R.C.V.S., 18 Shaftesbury Street, Glasgow
1894 Mitchell, Robert, jun., 18 Shaftesbury Street, Glasgow
1905 Mitchell, William, Hazelside, Douglas
1905 Mitchell, Thomas, Nethanfoot, Crossford, Carluke
1905 Montgomery, John, Dalserf Estate Office, Netherburn
1893 Moore, Wardrop, yr. of Greenhall, Blantyre
1875 Morton, J., Whelphill, Abington
1905 Morton, James, East Dykes, Strathaven
1897 Morton, Robert, Rosemount, Lanark
1859 Mosman, H., of Auchtyfardle, Lesmahagow
1905 Motherwell, And., Hay and Grain Merchant, Gorbals, Glasgow
1906 Moyes, John, 115 Bothwell Street, Glasgow
1906 Muirhead, John, Kilbucho Place, Biggar
1874 Muirhead, William, Holmhill, Uddingston
1904 Munro, John M., The Grange, Maxwell Park, Glasgow
1905 Murdoch, Alex., C.A., 94 Hope Street, Glasgow
1875 Murdoch, Alexander, Carlton House, Douglas Gardens, Uddingston
1888 Murdoch, James, Gartcraig, Shettleston
1905 Murdoch, James, Haughhead, Uddingston
1875 Murdoch, John, Carntyne, Shettleston
1905 Murdoch, Robt., West Hallside, Newton, Glasgow
1898 Murdoch, William, 3 Eglinton Lane, Glasgow
1905 Murdoch, Wm., East Hallside, Newton
1894 Murray, James, Low Ploughland, Darvel
1862 Murray, John L., of Heavyside, Biggar
1905 Murray, Joshua, Parkhall, Douglas
1874 Murray, Robert G., of Spittal, Biggar
1903 Murray, T. B., Redsyke, Biggar
1904 Myles, A. W., Town Clerk, Glasgow.
1875 Napier, John S., of Lethame, Strathaven

Admitted
1867 Neilson, William, Bank of Scotland, Bellshill
1898 Nelson, T. C., Live Stock Agent, Bellgrove Street, Glasgow
1889 Newbigging, Thomas, Park House, Carstairs Junction
1897 Newlands, Lord, Mauldslie Castle, Carluke
1900 Pate, James, West Browncastle, Strathaven
1905 Pate, Thomas, Muirsland, Lesmahagow
1906 Paterson, George Rankin, Drumalbin, Thankerton
1884 Paterson, James, jun., Over Abington, Abington
1882 Paterson, John, Caudy Cottage, Biggar
1887 Paterson, John, of Torfoot, Strathaven
1906 Paterson, M., 140 Houldsworth Street, Glasgow
1896 Paterson, William, Glentaggart, Douglas
1884 Paterson, Wm., Grange, Thankerton
1885 Paton, James, Glencaple, Abington
1905 Pearson, Douglas, Rock Villa Oil Mills, Port Dundas
1905 Pettigrew, James, jun., Bogside, Newmains
1889 Pollock, James, V.S., Hamilton
1884 Pollock, W., Yoker Mains, Glasgow
1903 Pooley, John S., 69 M'Alpine Street, Glasgow
1907 Prentice, Archd., Belstone, Carluke
1900 Prentice, James, Carolside, Uddingston
1899 Prentice, Thomas, Saddler, Carluke
1892 Ralston, Chas. W., Cairnhill, Bearsden
1906 Ramsay, Robert, Walstonfoot Farm, Newmains
1898 Rankin, William B., of Cleddans, Airdrie
1882 Rattray, Patrick, C.A., 115 St Vincent Street, Glasgow
1893 Reid, C., Photographer, Wishaw
1905 Reid, Dr John, Greenhill Cottage, Forth, Lanark
1902 Reith, Alex., Earnock Estate Office, Hillhouse, Hamilton
1901 Rennie, Jos., Hillend, Possil, Maryhill
1905 Renwick, Andrew, Buchley Farm, Bishopbriggs
1882 Renwick, Robert, Buchley, Bishopbriggs
1905 Retson, John, Langside, Lanark
1900 Riddell, Matthew, 438 Gallowgate, Glasgow
1905 Ritchie, Alex., 3 Croy Place, Glasgow
1867 Ritchie, John, Whitecastle, Biggar
1905 Robb, Andrew, sen., F.R.C.V.S., 6 Canning Place, Glasgow
1898 Robb, Daniel, 6 Blythswood Square, Glasgow—*Free Life Member*
1882 Robb, George, 11 Germiston Street, Glasgow
1905 Robb, William, F.R.C.V.S., 6 Canning Place, Glasgow
1900 Robley, W. P., 100 High John Street, Glasgow
1898 Russel, William, Longlees, Biggar
1894 Russell, Alexander, 54 West Nile Street,
1882 Russell, James, Allanton, Hamilton
1897 Russell, John, Cleghorn Mill, Lanark
1906 Russell, John, South Mains, Skirling, Biggar
1907 Russell, Robt., Walston Mansion, Dunsyre, Carstairs Junction
1889 Russell, Thos., Redlawood, Newton, Lanarkshire
1875 Sanderson, James, West Yard Houses, Carnwath
1897 Scott, David, Unthank Farm, Bellshill
1907 Scott, George S., Swinstie Farm, Cleland

Admitted
1878 Scott, Jas., Garrion Tower, Wishaw
1885 Scott, John, jun., Auchinloch, Lenzie
1897 Scott, William, Gilfoot, Carluke
1905 Scott, William, Greenhills, East Kilbride
1875 Scott, William, Priestfield, Blantyre
1905 Scouller, John, 117 Drury Street, Glasgow
1906 Shanks, Gavin, Shawhead Farm, Whifflet
1905 Shaw, John, Nerston, East Kilbride
1905 Shaw, William, Nerston, East Kilbride
1905 Shearer, Arch., Highflat, Carmunnock
1897 Simpson, Alex. M., Whitecross Farm, East Kilbride
1905 Simpson, Kerr A., B.L., of The Hill, Lesmahagow
1877 Skead, George, Royal Bank, Wishaw
1894 Sleigh, C. W., Estate Office, Blackwood, Lesmahagow
1889 Smellie, James, Coursington, Motherwell
1857 Smith, H., 9 Kelvinside Terrace (North), Glasgow
1878 Smith, Wm., 7 Balmoral Crescent, Rutherglen
1897 Somerville, Thos. Purdie, Muirhouse, Carnwath
1898 Sommerville, John L., 2 Chatham Pl., Glasgow
1886†Speir, John, Newton Farm, Newton, Glasgow
1883 Stalker, Donald, Mossend Farm, Mossend, Glasgow
1900 Stark, Thomas, Littlehills, Bishopbriggs
1891 Steel, Matthew Taylor, 135 Buchanan Street, Glasgow
1891 Stein, A. H., of Kirkfield, Lanark
1889 Steven, Hugh, Milton Iron Works, Glasgow
1904 Stewart, David, Blantyre Park, High Blantyre
1869 Stewart, D. W., Cartland, Lanark
1881 Stewart, R. K., of Murdostoun, Newmains
1906 Stobo, Alex., Bonanhill, Strathaven
1900 Strang, William, 141 West George Street, Glasgow
1906 Struthers, Miss Julia J., Avonholm, Glasford, Strathaven
1905 Struthers, James H., Auston, Dunsyre, Carstairs Junction
1899 Struthers, Jas. O., 26 Bath St., Glasgow
1889 Stuart, Col. Harington, of Torrance, East Kilbride
1906 Swan, James, Overburns and Loanhead, Lamington
1905 Taylor, John, M.R.C.V.S., Cathkin, Rutherglen
1906 Telford, Maxwell, 220 Broomielaw, Glasgow
1905 Templeton, William, of Torland, Netherburn
1881 Tennant, James, 7 Hillend Gardens, Hyndland Road, Glasgow
1897 Tervit, John, Cranston Hill, Carlisle Road, Lanark
1879 Thiem, A. M., Windsor Hotel, St Vincent Street, Glasgow
1889 Thomson, A. J., of Huntfield, Biggar
1882 Thomson, Seton, 27 St Vincent Place, Glasgow
1884 Thomson, William, Violet Bank, Dumbreck, Ibrox
1878 Thomson, Wm., 34 Airlie Gardens, Hyndland, Glasgow
1875 Thomson, W. G., 118 Queen Street, Glasgow
1905 Todd, Mrs George, 13 Park Circus, Glasgow
1905 Todd, George, 13 Park Circus, Glasgow
1905 Torrance, Alex., Crookedstone, Quarter
1899 Tullis, John, Inchcape, Dennistoun, Glasgow
1898 Turnbull, Wm., Daldowie, Broomhouse, Glasgow
1882 Vere, J. C. Hope, of Blackwood, Lesmahagow
1905 Waddell, Alex., 32 Moir Street, Glasgow
1899 Walker, James, West Brownlee Farm, Carluke
1897 Walker, William Hamilton, Cardarroch House, Airdrie
1907 Wallace, Duncan, Graham Square, Glasgow
1882 Wallace, Hugh, 544 St Vincent Street, Glasgow
1882 Wallace, John, The Ingle, Rutherglen
1893 Wallace, Robt., Graham Square, Glasgow
1879 Wallace, W. (John Wallace & Sons), Graham Square, Glasgow
1907 Wallace, Wm. B., Graham Square, Glasgow
1897 Wallace, Wm., Bellsfield House, Pollokshields, Glasgow
1906 Warnock, Robt., Netherholm Farm, Strathaven
1888 Watson, G. M., Baitlaws, Lamington
1897 Watson, J , National Bank, Crosshill, Glasgow
1884 Watson, Robert, Culterallers, Biggar
1899 Watson, Wm., M.D., Claremont, 73 Millbrae Road, Langside, Glasgow
1880 Watt, John, Drumgray, Airdrie
1900 Watt, Thomas, Drumgray, Airdrie
1905 Weir, Charles, Implement Works, Strathaven
1877 Weir, James, Sandilands, Lanark
1884 Weir, William C., c/o Weir & Robertson, 7 Royal Bank Place, Glasgow
1905 Williamson, William, Belziehill, Bellshill
1896 Willison, John, Parisholm, Douglas
1888 Wilson, James, Westburn, Cambuslang
1899 Wilson, James G., Dalzell Estates Office, Motherwell
1899 Wilson, John, of Airdrie House, Airdrie
1875 Wilson, John, Yett, Liberton, Carnwath
1906 Wilson, Thomas M., Nether Abington, Abington
1907 Wingate, David, Castlehill Farm, Wishaw
1889 Wood, Alex., Woodlands, Partick
1877 Wragg, Chas., 16 Lawrence St., Partick, Glasgow
1882 Wright, R. Patrick, 6 Blythswood Sq., Glasgow—*Free Life Member*
1905 Young, James, Greenfield, Strathaven
1900 Young, John, Greenlees, Cambuslang
1905 Yuill, Andrew, Netherside, Strathaven
1905 Yuill, Thomas, Greathill, Strathaven

RENFREW.

1906 Adam, John, East Walkinshaw, Renfrew
1905 Aitkenhead, Alexander, Carnwadrick, Thornliebank
1905 Aitkenhead, Alex., Cowglen, Pollokshaws
1887 Alexander, P. D., Dunmyat, Bridge of Weir
1905 Alexander, William, Dripps Mill Farm, Busby
1884 Allan, David, M.R.C.V.S., Clarkston, Busby
1905 Allan, David, Inches Farm, Eaglesham
1906 Baird, W. A., Erskine, Bishopton
1895 Ballantyne, William, Busbyside, Busby
1897 Blackwood, Walter, Aitkenhead, Cathcart
1886 Blair, James, Bankfoot, Inverkip
1857*BLYTHSWOOD, Lord, Blythswood, Renfrew
1905 Bowie, Walter, Marymaur, Paisley
1905 Brown, Wm., Craigton, Bishopton

Admitted	
1884	Bryce, David, Abbots Inch, Paisley
1906	Buchanan, George, Hunterhill Farm, Paisley
1906	Carnduff, Andrew, Cross Arthurlie, Barrhead
1906	Clark, Allan, Netherlea Farm, Cathcart
1905	Clark, David, High Craigs, Eaglesham
1905	Clark, James, High Craigs, Eaglesham
1884	Clark, James, Burnside, Mearns
1906	Clark, James, Netherlea Farm, Cathcart
1905	Clark, Robt, Hazelden, Newton Mearns
1906	Clark, Thomas, Netherlea Farm, Cathcart
1884	Clark, Wm, Netherlea Farm, Cathcart
1893	Coats, Andrew, Ferguslie, Paisley
1888	COATS, Sir Thos Glen, Bart, of Ferguslie Park, Paisley
1897	Collins, Hugh Brown, Auchinbothie, Kilmalcolm
1905	Craig, Matthew, Eastwood Mains, Giffnock
1884	Crawford, John W, Greenock
1894	Crichton, A. K, Estates Office, Penshurst, Bridge of Weir
1861	Cross, David, Inglisston, Bishopton
1897	Cross Thomas, Langbank, Renfrewshire
1880	Cunninghame, J. C, of Craigends, Johnstone
1905	Cunningham, Robert, Agricultural Implement Maker, Pollokshaws
1904	Davie, James, Bogton, Cathcart
1894	Dawson, Robert, Dovehill, Pollokshaws
1906	Farquhar, Mrs A W, St Margaret's, Bridge of Weir
1882	Ferguson, A R, Writer, Neilston
1893	Ferguson, James A, Elderslie Estates Office, Deanside, Renfrew
1875	Ferguson, Peter, Croft an righ, Renfrew
1900	Fleming, Andrew, Threepland, Eaglesham
1905	Fleming, John, Windhill, Eaglesham
1897	Fleming, Thomas, Easter Farm, Busby
1888	Fleming, William, of Park, Renfrew
1872	Forsyth, James, Ironmonger, Kilmalcolm
1897	Fulton, Thomas, Shiels, Renfrew
1905	Gardner, James, Hillington, Paisley
1905	Gardner, Jas, jun, Hillington, Paisley
1906	Gardner, Thomas, Wraes Mill, Neilston
1905	Gemmell, Alexander, Humbie, Newton Mearns
1906	Gibb, James, Nether Southbar, Renfrew
1905	Gilmour, James, Overlee, Clarkston, Busby
1905	Graham, Patrick, Kittochside Farm, Busby
1905	Hamilton, George, Contractor, Neilston
1900	Harvie, Alexander, Shieldhill, Newton Mearns
1905	Harvie, Robert, Darnley Mill, Nitshill
1880	Hoggan, Andrew, Busby, Glasgow
1905	Holms, John, Glenshinnoch, Bishopton
1905	Holms, John A, Formaken, Erskine
1906	Holms, Peter, Priestside, Kilmalcolm
1905	Holms, William, jun, Gladstone, Kilbarchan
1906	Holmes, William, Hairlaws, Bridge of Weir
1897	Houston, Alex C, Marylea, Calside, Paisley
1906	Houston, Gavin, Greenhill, Elderslie
1894	Houston, William F, V S, Paisley
1875	Houstoun, Geo L, of Johnstone, Johnstone
1897	Howie, Robert, Netherauld House, Pollokshaws
1894	Hunter, Andrew, How-wood, Renfrew
1905	Jackson, Alexander, Greenlaw, Newton Mearns
1884	Jackson, Jas, Carolside, Busby
Admitted	
1897	Jackson, John, Whitemoss, Bishopton
1897	Kidston, A Glen, yr of Finlaystone, Langbank, Renfrewshire
1897	Kidston, George J, of Finlaystone, Langbank, Renfrew
1905	Knox, John, Malletsheugh, Newton Mearns
1906	Kyle, Matthew, Selvieland, Paisley
1906	Laidler, James, 3 Park Terrace, Paisley
1906	Lambie, Alex Balgray Mains, Newton Mearns
1906	Lambie, George W, Pilmuir Farm, Newton Mearns
1905	Lambie, John, jun, Langton, Newton Mearns
1905	Lambie, John, Patterton, Thornliebank,
1895	Lambie James, Bonnyton Moor, Eaglesham
1897	Lang Alex A, Garneyland, Inchinnan, Renfrew
1906	Lang Benj, 94 High Street, Paisley
1882	Locke, Matthew, Nether Kirkton, Neilston
1875	Love Alexander, Margaret's Mill, Kilmalcolm
1905	M'Allister, James, Craig Road, Cathcart
1907	MacBean S, Land Steward, Erskine, Bishopton
1905	M'Coll, Hugh, Waterfoot, Busby
1905	M'Coll, Neil, Craigends Home Farm, Johnstone
1905	M'Crone, John, The Wood, Thornliebank
1875	Macdowall, H, of Garthland, Lochwinnoch
1906	Macfarlane, John, Kilgrasten, Bridge of Weir
1905	M'Gee, Walter, Bridge Street Grain Mills, Paisley
1906	MacIndoe Robert, Barshagra, Barrhead
1897	M'Kay, John, Crossmill, Barrhead
1884	M'Kie, H B, Freeland, Bishopton
1906	M'Lachlan, John, Drums, Greenock
1897	M'Laurin, Arch, Cartside House, Johnstone
1905	M'Millan, William, Orchard, Giffnock
1905	M'Neilage, Robert Arden, Thornliebank
1885	Mactavish, D A, Solicitor, Johnstone
1897	Marshall, J C B., Crookfur, Newton Mearns
1895	Marshall, Robert C, Bruntshields, Kilbarchan
1904	Mather, James B, Kirkhill, Newton Mearns
1889†	MAXWELL, Sir John Maxwell Stirling, of Pollok, Bart, Pollokshaws
1900	Meiklem, John, Thorn House, Johnstone
1905	Michie, David K, Elderslie Estates Office, Renfrew
1905	Millar, James, Flander, Newton Mearns
1861	Moffat, George, Valeview, Busby
1906	Munro, Henry, Bishopton
1905	Munro, Robert, Polnoon, Eaglesham
1899	Mure, Major Wm, of Caldwell, Glasgow
1890	Murray, J Campbell, Hagg's Castle, Pollokshields
1900	Orr, Geo W, Cowdonhall, Neilston
1881	Park, Walter, Hatton, Bishopton, Renfrew
1905	Park, William, Glenshinnoch, Bishopton
1905	Peddie, Robert, Castle Mains, Cathcart
1867	Peile, H R. B, Mansion House, Greenock
1897	Pollock, John, jun., Springside, Howwood
1873	Pollok, John, Paper Mill, Langside
1883	Pottie, Alexander, V S, Paisley
1906	Raeside, Andrew, Floak Farm, Newton Mearns
1905	Raeside, Hugh, Langrigg, Newton Mearns

Admitted	
1888	Reid, Colin, Lawside, East Kilbride
1905	Reid, John, Castle Farm, Newton Mearns
1882	Reid, Robert, Writer, Lochwinnoch
1888	Reid, William, Titwood Farm, Mearns
1905	Renfrew, Andrew, Barrance, Newton Mearns
1905	Renfrew, William, jun., Burnhouse, Newton Mearns
1900	Renfrew, William, Ferguslie Farm, Paisley
1905	Rennie, Alex., Wellmeadow, Paisley
1896	Renshaw, Sir Charles Bine, Bart., of Barrochan, Houston
1863	Riddell, David, Blackhall, Paisley
1856	Robertson, John, 22 Forsyth Street, Greenock
1905	Rodger, David, Bonnyton, Eaglesham
1905	Rodger, James, Netherplace, Newton Mearns
1905	Rodger, William, Crook, Newton Mearns
1882	Scott, James B., Ryeraes, Johnstone
1906	Shaw, John C., Gertrude Place, Barrhead
1879	SHAW-STEWART, Sir Hugh, of Greenock and Blackhall, Bart., Ardgowan, Inverkip
1891	Speirs, Alex. Archibald, of Elderslie, Houston House, Johnstone
1905	Steven, Robert, Priesthill Farm, Nitshill
1905	Steven, Thos., Wardhill, Nitshill
1900	Stewart, John, Carrot, Eaglesham
1905	Stewart, John P., Thornley Park, Paisley
1900	Stewart, Thomas, Ardoch, Eaglesham
1905	Stirling, James, Housecraigs, Busby
1905	Strang, Geo., Leggatston, Nitshill
1905	Strang, Wm., Upper Darnley, Barrhead
1880	Taylor, William, Park Mains, Renfrew
1894	Thomson, Malcolm B., Crosslee House, Houston, Johnstone
1905	Veitch, James, Hillhead Farm, Crookston, Paisley
1900	Watson, Alexander, Greenfield, Eaglesham
1906	Weir, James, Braidbar, Cathcart
1906	Whyte, John, Nether Craigends, Johnstone
1906	Whyte, William, Auchens, Johnstone
1894	Wilson, James, Boghall, Houston
1863	Wilson, Robert, Manswraes, Bridge of Weir
1905	Wilson, Alex., Low Borland, Eaglesham
1905	Wilson, Andrew B., Middleton, Newton Mearns
1905	Young, David, Rysland, Newton Mearns
1883	Young, R. C., Netherfield, Johnstone
1905	Young, William, Haugh Farm, Nitshill

2.—PERTH DISTRICT.

EMBRACING THE

COUNTIES OF FIFE, FORFAR (WESTERN DIVISION), KINROSS, AND PERTH (PERTH SHOW DIVISION).

FIFE.

Admitted
1902 **Abbie, Robt.**, Anfield Farm, Largo, Fife
1900 **Adamson, David**, Balmullo, Leuchars
1888 **Aitken, George Lewis**, Boglilly, Kirkcaldy
1904 **Allan, David**, Southfod, Dunfermline
1875 **Anderson, Charles**, Fettykil, Leslie
1888 **Anderson, David A.**, 80 Crossgate, Cupar-Fife
1905 **Anderson, James**, Auchendownie, Largo
1905 **Anderson, J. L.**, Town Clerk, Cupar-Fife
1904 **Anderson, John**, Newbigging of Ceres, Cupar-Fife
1867 **Anderson, W. H.**, Anchor Lodge, Anstruther
1892†**ANSTRUTHER, Sir R.**, of Balcaskie, Bart., Pittenweem
1885 **Anstruther-Duncan, Mrs C. H. A.**, of Naughton, Dundee
1862 **Arnot, David**, Friarton, Newport, Fife
1900 **Arnot, David, jun.**, Friarton, Newport, Fife
1900 **Arnot, Patrick**, Moonzie, Cupar-Fife
1886 **Arnot, Thomas**, Newton of Falkland, Falkland
1894 **Auchmuty, George**, Craighead, Crail
1884 **Auchterlonie, James**, Leckerstone, Dunfermline
1864 **Bain, James**, St Andrews
1878 **Baird, William**, of Elie, Fife
1884 **Balfour, Edward**, of Balbirnie, Markinch
1857 **Balfour, Major F. W.**, of Fernie Castle, Collessie
1890 **Balfour, Francis**, yr. of Fernie, Fernie Castle, Collessie
1900 **Balfour, James**, Baldastard, Largo
1898 **Balfour, William**, Ovenstone, Pittenweem
1871 **Ballingal, Neil**, Sweetbank, Markinch
1903 **Ballingall, George**, Newton, Wormit, Dundee
1861 **Ballingall, John**, Dunbog, Newburgh
1890 **Banks, James**, Pitteddie, Kirkcaldy
1900 **Barclay, Patrick**, Manorleys, Lochgelly
1886 **Baxter, Edward Gorrel**, of Teasses, Largo
1891 **Baxter, John Henry**, of Gilston, Largo
1900 **Beath, Thomas**, Farmlands, Leslie
1871 **Belfrage, A. W.**; J.P., C.E. (of Colliston, Kinross-shire), Earlsknowe, Elie
1856 **Bell, David**, Todhall, Cupar-Fife
1893 **Bell, George**, Lundin Mill, Largo
1880 **Bell, John**, Balboothie, Kilconquhar
1903 **Bell, John C.**, Randerston, Crail
1893 **Bell, P. A.**, Pusk, Leuchars
1897 **Bell, Robert**, Upper Kenley, Boarhills, St Andrews
1877 **Bennet, Arthur**, South Pitkinnie, Lochgelly

Admitted
1899 **Bennet, David**, Merchant, Saline, Dunfermline
1896 **Berry, William**, of Tayfield, Newport, Fife
1893 **Berwick, Andrew**, of Hayston, Leuchars
1904 **Berwick, John**, Barbarafield, Cupar-Fife
1898 **Berwick, P. W.**, Ardross, Elie
1898 **Beveridge, Chas. H.**, Crombie, Dunfermline
1862 **Beveridge, George**, Kirkcaldy
1881 **Beveridge, William, jun.**, Eastgrange, Dunfermline
1896 **Birrell, James**, Tyrie, by Kirkcaldy
1888 **Black, James**, Tullybreck, Markinch
1889 **Blyth, James**, Logie, Cupar-Fife
1890 **Blyth, William**, St Andrews
1905 **Bonella, John**, Ramornie Mill, Ladybank
1895 **Bonthrone, James**, Hayfield, Kirkcaldy
1899 **Bowman, David W.**, Newark, St Monance
1887 **Bowman, George M.**, of Logie, Cupar-Fife
1890 **Braid, John**, Abercrombie, St Monance
1902 **Brown, Alex.**, Incharvie, Colinsburgh
1894 **Brown, Hugh**, Colton Mains, Dunfermline
1876 **Brown, John**, of Colton, Dunfermline
1904 **Budge, Joseph**, Wemyss Castle Estate Office, East Wemyss
1897 **Burns, A.**, Grange, Dunfermline
1906 **Buttercase, David L.**, Uthrogle, Cupar-Fife
1894 **Butters, Hugh**, Masterton, Dunfermline
1906 **Butters, James**, Masterton, Dunfermline
1901 **Cairns, James**, Ashburn House, Crail
1904 **Cairns, James**, Rennyhill, Anstruther
1904 **Cairns, Wm. Roger**, Ashburn House, Crail
1905 **Cameron, James**, Tayside, Newburgh, Fife
1906 **Cameron, Robt.**, Balmeadowside Farm, Collessie
1899 **Campbell, Duncan**, Elie
1887 **Campbell, Colonel**, Westwood House, Cupar-Fife
1880 **Carnegie, James**, of Aytoun Hill, Newburgh
1905 **Carstairs, John**, Carnbee, Pittenweem
1869 **Carswell, David**, Blacketyside, Leven
1885 **Carswell, J. H.**, Straiton, Leuchars
1868 **Cartwright, T. R. B. Leslie Melville**, Melville House, Ladybank
1886 **Cathcart, James T.**, yr. of Pitcairlie, Dunbog House, Newburgh
1857 **Cathcart, R.**, of Pitcairlie, Newburgh
1889 **Cheape, Mrs**, of Wellfield, Strathmiglo
1901 **Cheape, G. R. H.**, Wellfield, Gateside, Fife
1881 **Cheape, J.**, of Lathockar, Strathtyrum, St Andrews

Admitted
1879 Christie, F. W., Dairsie Mains, Dairsie, R.S.O., Fife
1890 Christie, James M., Morton, Tayport
1874 Christie, John, Kirktonbarns, Tayport
1889 Clark, Alex., Chestnuts, Lundin Links
1905 Clark, Alexander, Newton, Markinch
1900 Clark, William, Wester Bogie, Kirkcaldy
1871 Clark, Wm., 57 Cross Gate, Cupar-Fife
1905 Clement, D. W., East Pitkierie, Anstruther
1894 Clement, Jas., Balkaithly, St Andrews
1894 Clement, John, North Dron, Dairsie, R.S.O.
1882 Cochrane, Hon. Thos., M.P., Crawford Priory, Springfield
1890 Constable, John, M.D., Leuchars
1892 Corstorphine, J. E. E., Inchyre Abbey, Newburgh, Fife
1905 Craig, William, Couston, Aberdour, Fife
1905 Cranna, Charles J., Strathedew, Ladybank
1901 Crichton, Chas. M. M., of Lathrisk, Largo House, Largo
1894 Crichton, Jas., Boyne House, Ladybank
1901 Cruickshank, Peter F., Montrave, Leven
1879 Cunningham, David, Dalachy, Aberdour, Fife
1879 Cunningham, John G., Burntisland
1880 Curr, James, Largo Estate Office, Largo
1894 Currie, Walter T., of Trynlaw, Cupar-Fife
1881 Curror, Peter, Grain Merchant, Kirkcaldy
1858 Dalgleish, L., Keavil, Dunfermline
1906 Dalziel, T. Kennedy, Nether Kenneddar, Saline, Fife
1901 Dand, John R., Westall Farm, Cupar-Fife
1906 Danskin, John, V.S., Landale Street, Lochgelly
1896 Davidson, James Scott, of Cairnie, Colinsburgh
1899 Davidson, Peter, East Craigfoodie, Dairsie, R.S.O.
1896 Davidson, Thos., Branxton and Cowdenlaws, Dysart
1894 Dickie, Alfred, Devon, Kennoway
1907 Dickie, Henry, Seafield, Inverkeithing
1899 Dingwall, Andrew, Caiplie, Anstruther
1894 Dott, Robt., Muir Farm, Pathhead, Kirkcaldy
1898 Dow, James F., Muirton, Kirkcaldy
1897 Drybrough, David, Orkie Farm, Kettle
1884 Dun, George, Woodmill, Auchtermuchty
1878 Duncan, Alexander, Auchtermuchty
1882 Duncan, John, of Kirkmay, Crail
1871 Duncan, John, Easter Balrymonth, St Andrews
1893 Duncan, Robert, Craigfoodie, Dairsie, R.S.O., Fife
1897 Edie, Harry Hay, Cornceres, Anstruther
1881 Elder, Hugh, Dunfermline
1875†Elgin and Kincardine, K.G., the Earl of, Broomhall, Dunfermline
1893 Erskine, Sir F. William, of Cambo, Bart., Kingsbarns
1892 Fair, Alex., Pratis Farm, Leven
1898 Fair, David, Little Raith, Cardenden
1906 Fair, George, Shawsmill, Cardenden
1891 Fairlie, J. O. R., of Myres Castle, Auchtermuchty
1884 Farmer, Robert, of Kingask, St Andrews
1882 Ferguson, R. C. Munro, of Raith, M.P.,
1891 Ferrie, David, Parbroath, Cupar-Fife
1892 Finlay, Archibald, Mairsland, Auchtermuchty
1859 Finlay, John, Lochend, Cardenden
1893 Finlayson, James, Coalfarm, St Monance
1903 Fleming, Alexander, St Ford, Kilconquhar
1898 Fleming, Andrew, Hallteases, Ceres

Admitted
1905 Fleming, Wm., Grangemuir, Pittenweem
1873 Forgan, James, Sunnybraes, Largo
1899 Fortune, George R., Rosebank, Colinsburgh
1905 Fraser, John, Collessie Mill, Collessie
1894 Fraser, Robt., Middle Balbeggie, Kirkcaldy
1904 Fulton, Adam, Netherton, Kelty
1900 Fulton, John, Balmule, Burntisland
1888 Galloway, John, of Seggie, Guardbridge
1905 Gavin, George, Estate Office, Falkland Palace, Falkland
1871 Gibb, David, Barnsmuir, Crail
1893 Gibb, James, Easthall, Cupar-Fife
1898 Gibb, William G., Pitteuchar, Thornton
1907 Gifford, John, Balbougie, Inverkeithing
1877 Gilchrist, Andrew, Carvenom, Anstruther
1875 Gilchrist, William, Nursery Cottage, Mount Melville, St Andrews
1875 Gillespie, John, Burns Tavern, Lochore, Lochgelly
1897 Gilmour, Harry, Montrave, Leven, Fife
1872†Gilmour, Sir John, of Montrave, Bart., Leven
1897 Gilmour, Captain John, yr. of Montrave, Woodburn, Ceres
1890 Gilroy, George A., Rankeillour, Springfield, Fife
1887 Goodall, Thos., Cardenbarns, Cardenden
1896 Gordon, Rev. Æneas G., The Manse, Kettle
1888 Gourlay, J. Murray, 1 Hope St., St Andrews
1900 Gray, Henry, Hawkhill, Kincardine-on-Forth
1904 Gray, Major Wm. Anstruther, of Kilmany, M.P., Cupar-Fife
1896 Grosset, J. E., Solicitor, Cupar-Fife
1899 Guild, William, of Lindores, Parkhill, Newburgh
1900 Hamilton, Andrew, Brucehaven, Dunfermline
1871 Heggie, R. B., West End House, Kirkcaldy
1891 Henderson, A. L., Kingsdale, Kennoway
1904 Henderson, George, Scoonie, Leven
1903 Henderson, Wm., Reedieleys, Auchtermuchty
1877 Hepburn, John, Kinghorn
1895 Hewitt, Hon. William James, St Colmes House, Aberdour, Fife
1904 Hill, John, jun., Langside, Kennoway
1901 Hill, Thos., jun., Boarhills, St Andrews
1900 Hill, William, East Baldridge, Dunfermline
1893 Horn, David, Drumcarro, Cupar-Fife
1887 Howie, Arch., Grange Farm, Kinghorn
1884 Husband, D., Struthers, Cupar-Fife
1891 Husband, Robt., Solicitor, Dunfermline
1883 Hutchison, Alex., Ingleside, Kirkcaldy
1891 Hutton, John, Kilminning, Crail
1900 Inglis, James, Barnslea, Markinch
1891 Inglis, James, Redhouse, Cardenden, R.S.O.
1887 Inglis, John, of Colluthie, Cupar-Fife
1895 Irving, John, Estate Office, Largo, Fife
1896 Jamieson, W., Estate Office, Elie
1876 Jamieson, W. T., Solicitor, Anstruther
1893 Jeffrey, Robt., Drumfin, Torryburn
1877 Johnston, L., Sands, Kincardine-on-Forth
1882 Johnston, S. W., St Michael's, Cupar-Fife
1898 Johnston, Wm., Allanhill, St Andrews
1890 Kay, Alex., Flass, Newport
1881 Kay, Robert, Fliskmillan, Newburgh, Fife

Admitted
1863 Kay, Wm., Burnbank, Kincardine-on-Forth
1893 Kelloch, George, Balmerino, Newport
1893 Kidd, John, Rhynd, Leuchars
1859 Kininmonth, Peter, Collairnie, Collessie, Fife
1884 Kinnear, John Boyd, of Kinloch, Collessie
1871 Kinross, Thomas, Wester Balbeggie, Kirkcaldy
1879 Knight, Robert, V.S., Abbots House, Dunfermline
1896 Laidlay, A. H., Strathaven, St Andrews
1900 Laird, John, Caskieberran, Leslie
1905 Lambie, George, East Pitcorthie, Dunfermline
1878 Landale, James, The Binn, Burntisland
1893 Lauder, Thomas, St Nicholas, St Andrews
1896 Law, George P., West Pitscottie, Ceres
1896 Law, James, Spencerfield, Inverkeithing
1891 Lawson, Alex., of Burnturk, Annfield, Kettle
1890 Lawson, Henry Graham, Firthfield, Anstruther
1903 Lawson, John, of Carriston, Markinch
1899 Leburn, Patrick M. G., Gateside House, Gateside
1884 Lees, David, Pitscottie, Cupar
1897 Leitch, Richard G., Cameron, Buckhaven
1896 Lesslie, William Smith, Banchory, Kirkcaldy
1898 Lindsay, John, Dams, Kingskettle
1889 Lochead, Matthew, Wester Balgarvie, Cupar-Fife
1896 Longmuir, Thomas, St Andrews
1904 Low, William, Blebo, Cupar-Fife
1895 Lumsden, John Lawson, Freuchie
1904 Lyle, Alex., Auchmudy Farm, Markinch
1890 M'Gibbon, John, Bankhead, Leven
1890 M'Gregor, James Fleming, 71 Market Street, St Andrews
1904 M'Inroy, James, Baldinnies, Dunning
1878 M'Intosh, Dr, 21 Abbotsford Crescent, St Andrews (and Nevay Park, Forfarshire)
1907 M'Kelvie, Gavin, Seaview, Methil
1900 M'Kerchar, John, Pitbauchlie, Dunfermline
1903 Maclellan, George L., of Kinsleith, Cupar-Fife
1903 Maclellan, Walter P., of Kinsleith, Cupar-Fife
1898 M'Laren, Wm., Inch Farm, Kincardine-on-Forth
1871 M'Naughton, William, North Lethans, Saline
1896 Maitland, F. L., of Lindores, Newburgh, Fife
1905 Marshall, Harley, of Dunduff, Dunfermline
187 Marshall, Walter, of Lochmaloney, Cupar
1879 Meikle, William, Denbrae Farm, St Andrews
1896 Meiklejohn, Wm., Glen-Newton Brewery, Falkland
1893 Meiklem, James, Begg, Kirkcaldy
1893 Meiklem, William, Begg, Kirkcaldy
1905 Meldrum, Charles, of Balmungo, St Andrews
1859 Meldrum, J., of Eden Bank, Pittormie, Cupar-Fife
1893 Melville, Thomas Robertson, Kettle
1875 Menzies, Fergus, 30 Canmore Street, Dunfermline
1897 Millar, Geo., Nydie Mains, St Andrews
1877 Millar, J., of Waulkmill, Dunfermline
1890 Miller, James Gilbert, Starr, Cupar-Fife
1904 Miller, James W., Lochhead, West Wemyss
1870 Millie, George, St Mary's, Cupar-Fife
1894 Mitchell, Alexander, of Luscar, Dunfermline
1905 Mitchell, H. Q., Newbigging, Burntisland
1899 Mitchell, James, County Buildings, Cupar-Fife
1898 Mitchell, John, Clentrie, Kirkcaldy
1859 Mitchell, Robert, 3 Bonnygate, Cupar-Fife
1904 Mitchell, Robt. T., Newington, Cupar-Fife
1899 Mitchell, Stuart, Camilla, Kirkcaldy
1907 Mitchell, William, Calais, Dunfermline
1905 Morgan, John, Kilgour, Falkland, Fife
1906 Morris, Andrew Ireland, Grassmiston, Crail
1878 Morrison, B. G. W., of Falfield, Cupar-Fife
1902 Morrison, E. E., Bonnyton, Stravithie, R.S.O.
1901 Morrison, James, Lower Kenly, Boarhills
1890 Morton, David, Crail
1894 Morton, John G., Wormiston, Crail
1899 Morton, John P., Broomhall, Dunfermline
1894 Moubray, Capt. H. H. Carew, of Otterston, Aberdour
1903 Mungall, William, Transy, Dunfermline
1902 Murray, James, Lahill Craig, Largo, Fife
1883 Nairn, Sir M. B., of Rankeillour, Bart., Springfield
1896 Nasmyth, Alex. Hogg, Middlebank, Dunfermline
1899 Nasmyth, Dr Thos. Goodall, Cupar-Fife (Palmerston Place, Edinburgh)
1896 Ness, Walter, Potato Merchant, Kingskettle
1906 Nicol, J. M. R., Greenside, Largo
1884 Nisbet, T. M., Forthar, Freuchie
1905 Niven, Alex., Park House, Inverkeithing
1880 Normand, William J., Dysart
1892 Orchison, Alex., of Torr, Cupar-Fife
1882 Osborne, David, Banker, Cupar-Fife
1896 Oswald, John, of Dunnikier, Kirkcaldy
1886 Page, Walter, Myregoonie, Kirkcaldy
1859 Paton, John, Kirkness, Lochgelly
1893 Porter, James, Prinlaws House, Leslie
1864 Prentice, G., of Strathore, Thornton
1904 Prentice, John W., Urquhart Farm Dunfermline
1889 Purvis, Colonel Alexander, R.A., Kinaldy, Stravithie, R.S.O.
1844 Purvis, John, of Kinaldy, Stravithie, R.S.O.
1905 Purvis, Captain R., of Gilmerton, St Andrews
1899 Ramage, M., Ashgrove, Windygates
1895 Ramsay, John, Inch, Pittenweem
1886 Reid, Andrew, V.S., Auchtermuchty
1878 Rigg, James Home, of Tarvit, Cupar-Fife
1904 Rintoul, Jas. F., Starr, Cupar-Fife
1893 Rintoul, Wm., Mains of Blebo, Cupar
1904 Ritchie, James M., Denhead, Ceres, Fife
1900 Ritchie, William, Plains, Auchtermuchty
1904 Robertson, David, Rumgally, Cupar-Fife
1900 Robertson, James, Orchardhead, Inverkeithing
1899 Roger, John M., Balgove, St Andrews
1893 Roger, William, Kingsbarns
1900 Rollo, D. M., Solicitor, Cupar-Fife
1900 Rollo, W., Easter Forret, Cupar-Fife
1891 Ross, Nicol, Cattle-salesman, Dunfermline

Admitted

1892 ROSSLYN, The Earl of, Balbeggie, Kirkcaldy
1905 ROTHES, Earl of, Leslie House, Leslie
1896 Rowat, Robert, Easter Lumbennie, Newburgh-on-Tay
1904 Russell, David, of Inchdairnie, Leslie (Brae Lodge, Murrayfield, Edinburgh)
1895 Russell, George, Hatton, Lundin Links
1899 Russell, Thos., Pilmuir, Lundin Links
1899 Rutherford, William, Thirdpart, Crail
1893 Scott, Douglas, Newton of Wemyss, Fifeshire
1898 Scott, John, Newton of Wemyss, Fifeshire
1898 Scott, John A., Mucross, St Andrews
1905 Sharp, Mrs F. B., St Fort House, St Fort
1894 Shepherd, William, Solicitor, Leven
1904 Shiell, James Guthrie, Cairney, Cupar-Fife
1890 Sidey, James, Blinkbonny, Newburgh, Fife
1879 Sime, Alex., Bay View Cottage, Drumeldry, Largo
1900 Sime, Wm. Webster, Royal Hotel, Ladybank
1902 Sivewright, Sir James, Tulliallan Castle, Kincardine-on-Forth
1904 Small, And., Fernie, Collessie
1904 Small, John, Mount Farm, Cupar-Fife
1904 Small, Robert, Kilmux, Kennoway
1904 Smith, Andrew, Waltonhill, Pitlessie
1897 Smith, James, Cults, Pitlessie
1886 Smith, Thomas, Inverdovat, Newport
1896 Smith-Sligo, Arch. D., of Inzievar, Oakley, Fife
1888 Sprot, Colonel A., of Garnkirk and Stravithie, Stravithie House, Stravithie
1876 Stenhouse, J. S., of Northfod, Dunfermline
1900 Stevenson, David, Sauchenbush, Kirkcaldy
1892 Stewart, Hugh, Lumphinnans, Cowdenbeath
1904 Stewart, James, Clatto, Ladybank
1906 Stewart, James, Headwell, Dunfermline
1904 Stewart, John, Struthers Barns, Cupar-Fife
1900 Storrar, Christopher, Dalginch, Markinch
1890 Storrar, David, Land Surveyor, Cupar-Fife
1891 Storrar, Richard, Pyestone, Markinch
1905 Storrar, Richard, Upper Urquhart, Gateside, Fife
1905 Strang, Robt., Pitillock Farm, Freuchie, Fife
1889 Syme, John, Nether Strathkinness, St Andrews
1877 Thom, Alexander, West Baldridge, Dunfermline
1871 Thom, James, Victoria Gardens, Kirkcaldy
1875 Thom, James F., Wellsgreen, Windygates
1879 Thom, R. D., Pitlochie, Strathmiglo
1899 Thomson, David (Flear & Thomson), Dunfermline
1902 Thomson, George, Rankeillour, Springfield, Fife
1891 Thomson, Henry, Perceval, Buckhaven
1897 Thomson, James, Humbie, Aberdour
1896 Thomson, John R., Methilhill, Windygates
1896 Thornton, Robert, North Pitkinnie, Cardenden
1877 Tod, James, Easter Cash, Strathmiglo
1904 Tod, James, jun., Easter Cash, Strathmiglo
1905 Tod, John, Hole Kettle, Kingskettle
1905 Torrie, Thos. Jameson, Denork, St Andrews

Admitted

1898 Turnbull, James, Boghall, Kingsbarns
1893 Turnbull, Mark, Boghall, Kingsbarns
1864 Veitch, Christopher, Abden Villa, Kinghorn
1905 Waddell, James, Stenton, St Monance
1896 Waldie, Adam, Callange, Cupar-Fife
1878 Walker, Archibald, Banker, Auchtermuchty
1875 Walker, Thos., Demperston, Auchtermuchty
1904 Wallace, Henry P., Tailabout, Cupar-Fife
1891 Wallace, John, St Catherine's, Links, Leven
1880 Wallace, T. A., Banker, Burntisland
1899 Wallace, Wm., Buckthorns, Largo
1875 Wallace, Wm., Kincaple, Guardbridge
1883 Walls, Robert, Grange, Burntisland
1892 Wardlaw, John, Tough Mill, Dunfermline
1898 Watson, Arthur, Kinnear, Leuchars
1904 Watson, Henry, National Bank Buildings, Anstruther
1893 Watt, Frank M., Caldwell, Collessie
1882 Watt, W., Seed Merchant, Cupar-Fife
1905 Webster, John, Grange of Lindores, Newburgh
1890 Webster, Thos., Nisbetfield, Ladybank
1874 Wedderburn, H. S., of Wedderburn, Birkhill, Cupar
1884 Weighton, J. G., of Priorletham, St Andrews
1900 Weir, John, M.A., Keith Street, Kincardine-on-Forth
1872 Wemyss, R. G. E., of Wemyss, Kirkcaldy
1875 Whyte, John, The Barony, Cupar-Fife
1882 Wilson, George, Gladstone Cottage, Cupar
1903 Wilson, George A., East Colquhally, Lochgelly
1902 Wilson, John C., Tulliallan Castle, Kincardine-on-Forth
1892 Wilson, John Hardie, D.Sc., F.R.S.E., St Andrews—*Free Life Member*
1880 Wilson, P., Albert Crescent, East Newport, Fife
1906 Wilson, Robt., Spittal Farm, Cardenden
1859 Young, A., Kinloch, Collessie
1897 Young, James, Scotscraig, Tayport
1875 Younger, J. B. B. C., the Manse, Kinghorn
1899 Yule, John, Sauchope, Crail

FORFAR

(WESTERN DIVISION).

1901 Airlie, Earl of, Cortachy Castle, Kirriemuir
1874 Anderson, Alex., Berryhill, Dundee
1884 Anderson, James, Viewbank, Leysmill, Arbroath
1890 Andrew, James M., Magdalenes, Kirkton, Dundee
1901 Annand, James M., Newton, Glamis
1903 Arnot, Patrick, Glamis Mains, Glamis
1871 Arnot, Wm., Glamis Mains, Glamis
1884 Auchterlonie, Alex., Kirkton of Nevay, Coupar-Angus
1905 Ballingall, Wm. O., Cookston, Glamis
1897 Barrie, Peter, St Mary's, Strathmartine, Dundee
1889 Batchelor, Francis M., Craigie, Dundee
1890 Baxter, Sir George W., Invereighty, Forfar
1890 Bell, Thomas, of Belmont, Dundee

Admitted
1894 Bell, William, Balnuith, Dundee
1890 Bell, William Forsyth, Barns of Claverhouse, Dundee
1904 Bell, W. W., Auchtertyre, Newtyle
1876 Black, John, Cortachy, Kirriemuir
1899 Boyd, Charles, Solicitor, Coupar-Angus
1896 Brown, John G., Craighill, Dundee
1899 Brown, Wm. Donaldson, Drumgley, Forfar
1867 Burr, Rev. P. Lorimer, D.D., Lundie Manse, Dundee
1882 Buttar, Thomas A., Corston, Coupar-Angus—*Free Life Member*
1871 CAMPERDOWN, The Earl of, Camperdown, Dundee
1884 Clark, James, F.R.C.V.S., Abbeyhill, Coupar-Angus
1896 Clunie, George, Whitfield, Dundee
1898 Colville, James W., Leoch, Dundee
1893 Cowans, David S., of West Mains, Auchterhouse, Dundee
1898 Cox, Edmund C., Dunnichen, near Forfar
1882 Cox, Geo. M. (Messrs Cox & Co.), Dundee
1879 Crabb, William, Rosewell, Kirriemuir
1890 Dewar, James C., Crieff Farm, Kirriemuir
1887 Don, H. G., c/o Don Brothers, Buist, & Co., Dundee
1888 Duncan, John, Muirhouses, Kirriemuir
1879 Duncan, Patrick G., East Memus, Kirriemuir
1881 Duncan, W. G., Balkemback, Tealing, Dundee
1895 Durkie, Alexander F., Mill of Mains, Dundee
1894 Fenton, David, Kingennie, Dundee
1899 Fenton, W. F., Kinalty, Kirriemuir
1898 Fergusson, R. A., of Ethiebeaton, Dudhope Works, Dundee
1904 Findlay, James, Newmill of Craigeassie, Tannadice, Forfar
1894 Fraser, H. E., Medical Superintendent, Royal Infirmary, Dundee
1904 Fyfe, Allan, North Mains, Mylnfield, Invergowrie, Dundee
1867 Gardyne, Col. C. G., Finavon, Forfar
1879 Graham, D. M., Auctioneer, Forfar
1901 Graham, James, Mains of Baldovan, Dundee
1890 Grant, John, Craig Mills, Dundee
1905 Grant, William, Baron Hill, Forfar
1903 Guild, Jas., Haughs of Cossans, Glamis
1896 Guthrie, John, Grain Merchant, Forfar
1878 Henderson, G. D. C., Captain R.N., of Invergowrie, Dundee
1889 Hendry, William, Mains of Coul, Kirriemuir
1888 Hunter, Wm., Beech Tower, Broughty Ferry, Dundee
1899 Johnston, David, Bank of Scotland Buildings, Dundee
1890 Johnston, John, 14 St Clement's Lane, Dundee
1890 Kidd, David, West Ardler, Coupar-Angus
1904 Kilgour, James, Westbank, Longforgan, Dundee
1888 Kyd, Robert, Marris Cottage, Coupar-Angus
1893 Laird, W. P., 73 Nethergate, Dundee
1906 Langlands, Jas. H., 31 Murraygate, Dundee
1905 Ligertwood, James, Tay Oil-Cake Works, Stannergate, Dundee
1894 Lindsay, Henry, Home Farm, Glamis
1890 Lyburn, John, Kinochtry, Coupar-Angus
1900 Lyon, William, Nether Drumgley, Forfar
1905 M'Gregor, William, Newbigging, Burrelton, Coupar-Angus

Admitted
1890 MacIntyre, Peter, Denfind, Monikie, Dundee
1890 M'Kay, Alexander, Mains of Auchterhouse, Lundie, Dundee
1905 Mackenzie, William, West Market Co., Ltd., Dundee
1905 M'Laren, John, jun., Balgillo, Tannadice, Forfar
1891 Martin, Robert, Baldovie, Kirriemuir
1894 Maxwell, David, Upper Drumgley, Forfar
1892 Menzies, John C., Maritime Buildings, Dock St., Dundee—*Free Life Member*
1885 Menzies, W. D. Graham, of Hallyburton, Coupar-Angus
1894 Mitchell, James, Nether Migvie, Kirriemuir
1886 Mitchell, William, Balmashanner, Forfar
1900 Morgan, Andrew, Estates Office, Glamis
1905 Munro, Hugh T., Lindertis, Kirriemuir
1890 Murray, J. Douglas, Taycreggan, Perth Road, Dundee
1891 Murray, Joseph, Dryburgh, Lochee, Dundee
1887 Myles, Rob., Coilamy, Cortachy, Kirriemuir
1867 Nicol, T. Monro, Littleton, Kirriemuir
1891 Nicoll, William, Carsebank, Forfar
1906 Ogilvy, Herbert K., Baldovan House, Dundee
1871 OGILVY, Sir Reginald H. A., of Inverquharity, Bart., Baldovan House, Dundee
1904 Ogilvy, William, Lisden, Kirriemuir
1898 Ovenstone, Charles Barrie, Duntrune, Dundee
1890 Pattullo, David, Pitcur, Coupar-Angus
1900 Pattullo, Hugh, Newton of Airlie, Kirriemuir
1885 Pattullo, William, 19 St Andrew Street, Dundee
1880 Primerose, A. G., Dock Street, Dundee
1868 Ralston, Andrew, Glamis House, Glamis
1898 Ralston, Claude L., Glamis
1896 Ralston, Gavin, Glamis House, Forfar
1899 Reich, Donald, Scroggiefield, Forfar
1905 Reid, James C., Kilmundie, Glamis
1901 Ritchie, James Smith, 1 Commercial St., Dundee
1890 Robertson, Wm. Brown, Dudhope House, Dundee
1903 Rogers, John Y., Rose Mill, Dundee
1881 Rogers, Wm., Ph.D., Rose Mill, Dundee
1881 Ross, Wm., 93 Brook Street, Broughty Ferry
1896 Rough, William, Longbank, Kirriemuir
1890 Scott, George C., The Retreat, Perth Road, Dundee
1894 Scott, Jas., Suttieside, Forfar
1888 Sharp, Andrew, Norlands, West Albany Terrace, Dundee
1890 Sharp, John, Balmuir, Dundee
1883 Shield, J. T., Broughty Ferry
1894 Sim, Jas., Kilnhill, Kirriemuir
1905 Simpson, James, Newmill, Dunnichen, Forfar
1904 Smith, John, Adderley, Monifieth
1884 Smith, Thomas, Mains of Fowlis, Dundee
1900 Soutar, John G., Westhall, Dundee
1890 Spreull, Andrew, V.S., Yeaman Shore, Dundee
1906 Steele, R., Wormit Works, Dundee
1896 Steele, Thomas, Foulis Easter, Dundee
1894 Stewart, John F., Noranbank, Forfar
1898 Stewart, William, Auchlishie, Kirriemuir
1891 Strachan, James, West Pilmore, Longforgan, Dundee

Admitted
1903 Stuart-Gray, Hon. M. G., of Kinfauns, Gray House, Dundee
1890 Thoms, Thomas S., Benvie, Invergowrie, Dundee
1903 Thoms, William L., Benvie, Dundee
1898 Thomson, David Couper, 'Courier' Office, Dundee
1896 Thomson, Sam. C., Balmossie, Broughty Ferry
1881 Turnbull, George, Baldoukie, Tannadice
1902 Warden, James L., Easter Meathie, Forfar
1899 Waterston, David, Estates Office, Glamis
1903 Watson, George, Damside, Coupar-Angus
1900 Watson, James, Woodlyn, Dundee
1880 Watson, Wm., Downieken, Dundee
1881 Wedderspoon, George, Balgavies, Forfar
1905 White, John A., Royal Bank, Forfar
1868 White, John F., Craigtay, Dundee
1891 White, J. Martin, of Balruddery, Dundee
1861 Whitton, And., of Couston, Newtyle
1899 Whyte, Alexander, Hatton of Eassie, Glamis
1884 Whyte, Archibald, Inverquharity, Kirriemuir
1890 Whyte, James, Upper Hayston, Glamis
1871 Whyte, John, West Denoon, Glamis
1868 Whyte, William, Spott, Kirriemuir
1893 Whyte, Wm., jun., Spott, Kirriemuir
1881 Wilkie, James, Solicitor, Kirriemuir
1888 Wilsher, George, Pitpointie, Auchterhouse, Dundee
1878 Wilson, T. Mackay, Solicitor, Kirriemuir
1897 Wyllie, William, Glasswell, Kirriemuir
1908 Young, John B., Muirloch, Fowlis Easter, Dundee
1894 Young, Robert, Dunkenny, Meigle

KINROSS.

1882 ADAM, Sir Chas. E., of Blair Adam, Bart., 5 New Sq., Lincoln's Inn, London, W.C.
1861 Anderson, Robert H., Tillyrie Cottage, Milnathort
1893 Barclay, John, Pittendreich, Kinross
1868 Beath, David, Balleave, Kinross
1898 Bogie, John, Solicitor, Kinross
1890 Buchanan, John, Touchie, Milnathort
1902 Collier, John, Blairanbathie, Blair Adam
1896 Dawson, James A. Ramage, of Balado, Kinross
1902 Falconer, William K., Solicitor, Kinross
1900 Ferguson, William Crawford, Burleigh, Milnathort
1884 Flockhart, Wm., of Annacroich, Kinross
1885 Hepburn, John, V.S., Milnathort
1872 Hutchison, J. T., of Moreland, Kinross
1899 Meiklem, Robert, Lochran, Blair Adam
1878 Mitchell, Jas., Aldie Castle, Fossoway
1882 Montgomery, H. Jas., of Hattonburn, Milnathort
1862 Morrison, J. B. B., of Finderlie, Kinross
1904 Muirhead, Alex., Hatchbank, Kinross
1905 Muirhead, Thos., Bankhead, Fossoway
1870 Paterson, A., Blinkhoolie, Kinross
1896 Porteous, Colonel James, of Turfhills, Kinross
1871 Reid, George, of Tillyrie, Milnathort
1904 Reid, Robert M., Thomanean, Milnathort
1906 Rycroft, Col. Wm. Henry, Ard Gairney, Kinross
1900 Shorthouse, Alexander, Hillside, Cambo, Kinross
1890 Simpson, Jas., of Mawcarse, Milnathort
1878 Simpson, Jas., North Lethans, Kinross
1905 Smith, James, Banker, Kinross
1884 Steedman, James, of Fruix, Kinross

Admitted
1878 Terris, J., jun., Dullomuir, Blair Adam
1870 Tod, Thos. M., of West Brackly, Kinross
1884 Tod, Wm., of East Brackly, Kinross
1874 Waddell, George, Lassodie Mill Colliery, Blair Adam
1873 Young, George, Lochlea, Kinross
1901 Watson, George, Little Herd Hill, Kirriemuir

PERTH

(PERTH SHOW DIVISION).

1896 Adam, James, Braideston, Meigle
1896 Allan, John, Busby, Methven, Perth
1878 Allan, John, Culthill, Dunkeld
1906 Allan, John, Dalcrue, Almondbank, Perth
1887 Allan, William, Kinnon Park, Methven, Perth
1904 Allan, William, Victoria Auction Hall, Perth
1878 Anderson, Peter, Duneaves, Fortingal
1871 Anderson, Robert, Balbrogie, Coupar-Angus
1896 Annand, William, Mains of Craigisla, Kilry, Alyth
1853 Arklay, John, Tullochcurran, Kirkmichael, Perthshire
1860*†ATHOLL, The Duke of, K.T., Blair Castle, Blair Atholl
1902 Ballingall, Simpson, Parkfield, Scone, Perth
1901 Barker, George, Engineer, Perth
1893 Baxter, Wm., Tophead, Stanley
1899 Bell, George, South Inchmichael, Errol
1904 Bell, H. J., Inveravon (18 Charlotte Street), Perth
1887 Bell, James H., of Rossie, Forgandenny
1901 Bell, William, C.E., Aberfeldy
1895 Bernard, John Mackay, of Dunsinnan, Perth
1902 Bett, James Esson, Easterton, Glenfarg
1884 Bett, Thomas, Dalnalinn, Aberfeldy
1899 Beveridge, James, The Cotton, Aberdalgie, Perth
1884 Black, Captain, of Balgowan, Perth
1893 Boyd, James Laurence, of Glendouglie, Glenfarg
1883*†BREADALBANE, The Marquis of, K.G., Taymouth Castle, Aberfeldy
1871 Brown, Peter, Stanley
1879 Bruce, And., Jordanston, Meigle
1897 Bruce, George, of Rosefield, Balbeggie
1904 Bruce, John, Rosemount Place, Perth
1907 Bryden, James G., New Mains, Scone, Perth
1904 Buik, P. R., 75 George Street, Perth
1902 Bull, Arthur G., Scottish Live Stock Insurance Co., Tay Street, Perth
1896 Bullions, John, Byres, Guildtown, Perth
1904 Buttar, Alex., 75 George Street, Perth
1877 Butter, Albert, Union Bank, Perth
1895 Butter, Arch. Edward, of Faskally, Pitlochry
1871 Cairns, Robert, Letham House, Perth
1882 Calder, Jas., of Ardargie, Forgandenny
1888 Cameron, Donald, Roro More, Aberfeldy
1896 Cameron, John, Cairnbeddie, St Martins, Perth
1903 Cameron, John, Ballanloan, Blair-Athol
1892 Campbell, Alexander, Borland, Fernan, Killin
1879 Campbell, Duncan, Balnacraig, Fortingall
1896 Campbell, Dun., Bonkle Cottage, Craigie, Perth

Admitted
1896 Campbell, Col. J. C. L., of Achalader, Blairgowrie
1901 Campbell, J. Douglas, Craigmakerran, Guildtown, Perth
1896 Campbell, Peter, Kerrowmore, Glenlyon, Aberfeldy
1901 Carmichael, James S., of Arthurstone, Meigle
1879 Chalmers, John, Westwood, Stanley
1896 Chalmers, Wm., New Mains of Fingask, Errol
1888 Chapman, Alexander, Wester Buchanty, Glenalmond, Perth
1890 Chisholm, Colin Edward, Denmarkfield, Perth
1871 Chrystal, George, Engineer, Perth
1904 Clark, Arch., Saucher Farm, Collace, Perth
1871 Clark, Robert, Taybank House, Errol
1905 Cochrane, Andrew, Alyth (35 Tobago Street, Glasgow)
1896 Constable, Robert, Balledgarno, Inchture
1890 Cox, Albert E., of Dungarthill, Dunkeld
1896 Cox, Edward, of Carndean, Meigle
1890 Cox, Alfred W., Glendoick, Glencarse
1890 Cox, Wm. Henry, of Snaigow, Dunkeld
1904 Crichton, D. A., Mains of Rattray, Blairgowrie
1905 Crichton, Robert, Burrelton, Coupar-Angus
1906 Cunningham, James, Hillend, Perth
1896 CURRIE, Sir Donald, of Garth and Glenlyon, K.C.M.G., Garth Castle, Aberfeldy
1879 DALGLEISH, Sir Wm. Ogilvy, of Errol Park, Bart., Errol
1896 Darling, Hon. Lord Stormonth, of Balvarran, Pitlochry (10 Great Stuart Street, Edinburgh)
1896 Davidson, William, Mavisbank, Perth
1894 Dewar, John A., M.P., Perth
1896 Dickie, William B., Whitehills, Inchture
1846 Dickson, John, W.S., Greenbank, Perth
1904 Doe, George B., Errol Implement Depot, Errol
1899 Doig, James, Haughend, Meigle
1894 Dougall, James, Knowhead, Guildtown, Perth
1879 Dow, David, Balmanno, Bridge of Earn
1879 Dow, James, Clathybeg, Auchterarder
1865 Duff, James, 1 Inchaffray Street, Perth
1903 Duncan, James, Coupar Grange, Coupar-Angus
1896 Dyce, William, Evelick, Errol
1901 Eley, Henry, of Shire-end, Forgandenny
1874 Fell, John Duncan, Flesher, Blairgowrie
1894 Fenwick, James, Kirkhill, Redgorton, Perth
1899 Fenwick, William, Kinfauns, Perth
1904 Ferguson, Andrew Mitchell, Banker, Alyth
1900 Ferguson, Thomas (Kinochtry), Pictstonhill, Perth
1879†Ferguson, W. S., Pictstonhill, Perth
1905 Ferguson, Wm. S., Newton of Ballunie, Coupar-Angus
1905 Ferguson, William Scott, Pictstonhill, Perth
1904 Fergusson, Alex., Dalcapon, Ballinluig
1879 Fergusson, Donald, Dalcapon, Pitlochry
1897 Forbes, James, Deanshaugh, Strathbraan, Dunkeld
1895 Forbes, James, Old Blair, Blair Atholl
1892 Fotheringham, Walter Stewart, of Fotheringham and Murthly
1906 Fraser, Adam, Balgarvie, Scone, Perth
1879 Fraser, John M., of Invermay, Forteviot
1897 Fraser, John, Glenfoot, Abernethy, Perthshire

Admitted
1904 Fraser, Wm. Lovat, Invermay, Forteviot
1905 Fullarton, James, Redstone, Coupar-Angus
1890 Galloway, David, Grain Merchant, Perth
1896 Gardiner, James, Rose Crescent, Perth
1890 Gardiner, Thos. J., Banchory, Coupar-Angus
1871 Geekie, R., of Baldowrie, Rosemount, Blairgowrie
1875 Gillespie, Jas. J., Brier Bank, Glasgow Road, Perth
1896 Goodall, William, Snaigow, Dunkeld
1905 Gourlay, Charles G., The Croft, Longforgan
1887 Gow, Geo., Rannoch
1896 Graham, Alex., Ardargie Mains, Forgandenny
1881 Graham, A. G. Maxtone, yr. of Cultoquhey, Crieff
1896 Graham, Col. Henry Stewart Murray, of Murrayshall, Perth
1896 Graham, John, Tippermallo, Methven, Perth
1904 Grant, Alfred B., Victoria Auction Hall, Perth
1887 Grant, George, Lilly Bank, Blairgowrie
1879 Grant, John S., Tullymet, Ballinluig
1899 Grant, W. J. B., Bengarth, Blairgowrie
1880 Gray, George, Elibank Villa, Perth
1894 Gray, Thomas, Elibank Villa, Perth
1861 Greig, T. Watson, of Glencarse, Perth
1895 Greig, Thomas, yr. of Glencarse, Perth
1904 Grimond, John, Oakbank, Blairgowrie
1897 Guild, William, Little Downie, Buchanty, Perth
1903 Haggart, James D., Breadalbane Mills, Aberfeldy
1871 Haggart, Peter, Breadalbane Mills, Aberfeldy
1896 Halley, Robert, Grain Merchant, Perth
1890 Halkett, John Gilbert Hay, Balendoch, Meigle
1889 Hardie, David, Factor, Estates Office, Errol
1905 Harrison, Rev. John, Weem, Aberfeldy
1896 Harrower, William, Tomnacroich, Fortingall, Aberfeldy
1881 Hart, Andrew, Aberdalgie, Perth
1905 Hart, Jas. Maule, Nether Garvock, Dunning
1873 Hart, William, Nether Garvock, Dunning
1870 Hay, Alexander, Easter Cultmalundie, Perth
1904 Hay, Jas. Drummond, Cultmalundie, Tibbermuir, Perth
1890 Haynes, George J., Ellwood, Birnam
1896 Henderson, Robert, Hillyland, Perth
1890 Henderson, William, of Lawton, Coupar-Angus
1881 Hill, John, E. Cultmalundie, Tibbermuir, Perth
1904 Hill, R. Wylie, of Balthayock, Perth
1897 Hogg, Wm. H., Hallyburton Estate Office, Coupar-Angus
1894 Hollingworth, Thos., New Mains, Inchture
1896 Hope, Robert, Huntingtower Mains, Perth
1893 Howieson, James, Rannagullzion, Blairgowrie
1894 Howison, Robert, East Inchmichael, Errol
1895 Hunter, John (of Hay & Co.), 8 Fitzroy Terrace, Perth
1904 Hunter, Wm. C., Waterybutts, Errol
1904 Husband, David, Taymount Farm, Stanley
1882†Hutcheson, Andrew, Beechwood, Perth

Admitted
1903 Inglis, Robert, Assistant Factor, Blair-Atholl
1905 Irving, John Bell, Balmacneil, Ballinluig
1891 Irving, R. J., Balmacneil, Ballinluig—*Free Life Member*
1897 Jameson, Henry, Claremont, Perth
1884 Jameson, Martin, Fernhill, Perth
1880 Jamieson, Alex., 31 Barossa Place, Perth
1904 Jardine, John, 75 George Street, Perth
1893 Keay, Peter, Marybank, Herriotfield, Logiealmond
1904 Keir, David, Ladywell, Dunkeld
1894 Kidd, George, Drumkilbo, Meigle
1904 Kidd, James, Mains of Errol, Errol
1878 KINCAIRNEY, The Hon. Lord, Dunkeld (6 Heriot Row, Edinburgh)
1896 Kinloch, Chas. Y., of Gourdie, Dunkeld
1877 KINLOCH, Sir John G. S., of Kinloch, Bart., Meigle
1879 KINNAIRD, Lord, Rossie Priory, Inchture
1896†KINNOUL, The Earl of, Dupplin Castle, Perth
1896 Lamb, Alexander, Freeland, Forgandenny
1896 Lamond, James, Inverqueich, Alyth
1904 Law, William, Windyedge, Perth
1894 Leslie, Thomas, Kinloch Arms Hotel, Meigle
1905 Lindsay, D. C. Rutherford, Ashintully, Kirkmichael, Blairgowrie
1904 Livingston, James A., Campsie, Guildtown, Perth
1879 Livingston, John, Balarchibald, Ballechin, Ballinluig
1896 Love, Thomas, Auctioneer, Perth
1884 Lumsden, J. D., Huntingtowerfield, Perth
1899 Lumsden, Robert Oswald, Buttergask, Coupar-Angus
1897 MacArthur, D. G., M.D., Aberfeldy
1899 M'Beath, Wm., Mains of Orchill, Killiecrankie
1904 M'Cash, Wm. F., Westfield, Perth
1905 M'Cracken, J., Victoria Hotel, Princes Street, Perth
1884 Macdiarmid, Donald, Bank of Scotland, Aberfeldy
1875 M'Diarmid, Duncan, Camusericht, Rannoch Station
1896 Macdonald, Alex., Meggernie Estate Office, Glenlyon, Aberfeldy
1855 Macdonald, Arch. Burns, Earnoch, Perth
1896 M'Donald, David, Tullylumb Terrace, Perth
1887 Macdonald, Duncan, Aberfeldy
1890 M'Donald, James, City Mills, Perth
1896 Macdonald, James, Craigraven, Kincarrathie, Perth
1904 Macdonald, John, Saucher, Collace, Perth
1895 M'Donald, J. M., Welton, Blairgowrie
1880 Macdonald, Montague, of St Martins, Perth
1871 Macdonald, William, "The Atholl," Pitlochry
1860 M'Dougall, Arch., Ardtalanaig, Perthshire
1896 M'Dougall, Donald, Claggan, Ardtalanaig, Killin
1871 M'Dougall, John, Goodlyburn, Perth
1874 Macduff, Alex., of Bonhard, Perth
1904 Macduff, Alex., yr. of Bonhard, Perth
1896 Macfarlane, John, Muir Lodge, Rannoch
1883 M'Gillewie, R., Union Bank, Dunkeld
1882 M'Gregor, Athole, Ard Choille, Perth
1872 Macgregor, Donald, Dalnabo Cottage, Ballinluig
1905 M'Intosh, Donald, 17 Pitcullen Terrace, Perth

Admitted
1896 Mackendrick, William, 33 St John Street, Perth
1862 MACKENZIE, Sir Alex. M., of Delvine, Bart., Dunkeld
1890 Mackenzie, George A., Solicitor, Perth
1885 Mackenzie, R. W. R., Stormontfield, Perth
1896 Mackinnon, John, Auctioneer, Blairgowrie
1871 M'Lagan, C. Gibson, Dunfallandy, Pitlochry
1905 M'Lagan, Robt. P., Cherrybank, Perth
1900 M'Lagan, William J., East Mid-Lamberkin Farm, Perth
1896 M'Laggan, J. G., Woodburn Cottage, The Cairnies, Glenalmond, Perth
1897 M'Laren, Alexander, Auchnagie, Ballinluig
1901 M'Laren, Hugh, Blackhill Villa, Aberfeldy
1896 M'Laren, John, Retreat House, Scone
1879 M'Laren, Wm., Pittendrigh, Meikleour
1907 M'Leod, John, Stralochy, Dunkeld
1877 M'Leish, G. S., Wester Drumatherty, Dunkeld
1884 M'Leish, James, Byres of Murthly, Perth
1897 MacLeish, James, 15 Mill Street, Perth
1892 M'Naughton, Alex., Manufacturer, Pitlochry
1896 MacNaughton, James, Edrogoll, Aberfeldy
1896 MacNaughton, Peter, Remony, Kenmore
1898 MacRae, U. H. A., Dalchalloch, Calvine
1896 MANSFIELD, The Earl of, Scone Palace, Perth
1904 Marshall, Archd. M'Lean, Bleaton Hallet, Blairgowrie
1901 Marshall, David, Joint County Clerk, Perth
1896 Marshall, Robert, Wood Merchant, Killiecrankie
1896 Martin, H., Flowerdale, Balbeggie, Perth
1895 Martin, James, Eastbank, Longforgan
1900 Martin, James, Keithick Mills, Coupar-Angus
1884 Matthew, John M., of Auchmague, Perth
1887 Maxwell, William, of Donavourd, Pitlochry
1904 Meldrum, Andrew M., Solicitor, Pitlochry
1898 Meldrum, Rev. Andrew, Logierait Manse, Ballinluig
1869 Menzies, Dr James, of Pitnacree, Ballinluig
1879 Menzies, James, Wester Coshieville, Grandtully
1904 Menzies, James, Drumhead, Blairgowrie
1904 Menzies, John Graham, Hallyburton, Coupar-Angus
1877 MENZIES, Sir Neil, of Menzies, Bart.
1893 Menzies, Robert, Millhaugh, Herriotfield, Logiealmond
1879 Menzies, Robert, Tirinie, Aberfeldy
1898 Menzies, Robert, Weem Hotel, Aberfeldy
1887 Menzies, Wm. J. B. Stewart, Chesthill, Aberfeldy
1904 Michie, Thos., Clunskea, Pitlochry
1885 Middleton, Col. W. F., Baldarroch, Murthly
1895 Millar, David, Tullymoran, Logiealmond
1893 Millar, James Robert, Flawcraig, Errol
1887 Millar, Robert H., of Blair Castle, Culross
1896 Millar, William, Keillor, Coupar-Angus
1871 Millar, Wm., Over Kinfauns, Perth
1890 Miller, George A., W.S., Perth

Admitted
1896 Miller, William, Woodhead, Aberdalgie, Perth
1903 Mitchell, David, Royal Bank, Blairgowrie
1877 Mitchell, Hugh, Banker Pitlochry
1889 MONCREIFFE, Sir Robt D, of Moncreiffe, Bart, Bridge of Earn
1898 Morgan, Wm F, Ardgaith, Glencarse
1905 Morison, William, Newmiln, Perth
1896 Morrison, John, West Inchmichael Errol
1896 Morton, David, North Muirton, Perth
1887 Morton, John, Muirton, Perth
1879 Morton, R G, Engineer, Errol
1904 Mosson, Thos, Potato Merchant, Coupar Angus
1883 Munro, Chas, Union Bank, Aberfeldy
1895 MURRAY, Hon Alexander David, Scones Lethendy, Perth
1871 Murray, C A, Taymount, Stanley
1896 Murray, David, Balgersho Works, Coupar Angus
1900 Murray, E Mackenzie, Woodside House, Coupar Angus
1905 Nairn, William, M R C V S, 63 High Street, Blairgowrie
1896 Nicol, Alex, Breadalbane Arms Hotel, Aberfeldy
1896 Nimmo, Robert, 9 Pitcullen Crescent, Perth
1904 Norie Miller, Francis, of Cleeve, Perth
1905 Ogilvy, John C, Parkhead Blairgowrie
1905 Ogilvy, John Wedderburn, yr of Ruthven, Meigle
1904 Osler, Jas, Victoria Auction Hall, Perth
1896 Osler, James B, Coupar Angus
1899 Panton, William S, Stormont Lodge, Blairgowrie
1880 Paton, Jas, Obney, Bankfoot
1893 Paton, Wm B, Monorgan, Longforgan
1892 Paterson, Chas J G, of Castle Huntly, Longforgan
1904 Pattullo, Robt C, Bankhead, Alyth
1893 Pattullo, William, Fullarton, Meigle
1901 Pearson, James C, Auchlatt, Pitlochry
1896 Peddie, David, Forteviot Farm, Forteviot
1884 Philp, Alex, Mains of Duncrub, Dunning
1871 Pirrie, James P, Coachbuilder, Perth
1891 Pitcaithly, Geo, West Dron, Bridge of Earn
1877 Pople, George, Newhouse, Perth
1904 Pople, W G, Newhouse Perth
1898 Prain, Alex M, Unthank, Inchture
1900 Prain, John, Invergowrie
1896 Pullar, Albert E, Durn Perth
1897 Pullar, Charles, Muirhall, Perth
1896 Pullar, Herbert S, Dumbarnie Cottage, Bridge of Earn
1896 Pullar, James F, Rosebank, Perth
1871 PULLAR, Sir Robert, of Tayside, Perth
1896 Pullar, Rufus D, Brahan, Perth
1884 Rae, W A, Douglasfield, Murthly
1871 RAMSAY, Sir James H of Bamff, Bart, Alyth
1890 Ramsay, Prof, Glenshee, Blairgowrie
1904 Rankin, Alex, 71 George Street, Perth
1854 Rattray, Lieut-Gen J C, of Craighall, C B, Blairgowrie
1900 Reid, Alex., Marlee, Blairgowrie
1896 Reid, James, Coachbuilder, Princes St, Perth
1897 Reid, James, Whinniemuir, Perth
1898 Renton, James, Craigisla, Perth
1896 RICHARDSON, Sir E A Stewart, of Pitfour, Bart, Glencarse, Perth
1890 Richardson, Colonel Edmund R Stewart, of Ballathie, Stanley
1861 Richmond, John, Dron, Bridge of Earn
1904 Ritchie, James, The Neuk, Rosemount, Blairgowrie
1879 Robertson, Alex, Ballechin, Ballinluig

Admitted
1860 Robertson, Dr C, Burnbank, Strathtay, Perthshire
1899 Robertson, Chas, Balnacree, Pitlochry
1900 Robertson, Charles, Trochrie, Strathbraan, Dunkeld
1904 Robertson Chas, West Buttergask, Coupar Angus
1904 Robertson Chas B, Faskally Estate Office, Pitlochry
1893 Robertson, Daniel, Mains of Fordie, Dunkeld
1902 Robertson, David Cloag, Methven, Perth
1862 Robertson, Donald, Borlick Dunkeld
1880 Robertson, E W, of Auchleeks, Blair Atholl
1899 Robertson, George Innernytie, Stanley
1876 Robertson, J S, of Edradynate, Strathtay
1879 Robertson Wm, of Oliverburn, Errol
1883 Robertson, William, Potato Merchant, Perth
1879 Robertson, Wm, Engineer, Perth
1883 Rollo, James A, County Club, Perth
1871 Roy, Thomas, Craigclowan, Perth
1897 Roy, William, Kirkton of Mailer, Perth
1905 Scott, George Eastertyre, Ballinluig
1899 Scott, J G, Kinpurney, Newtyle, Forfar
1879 Scott, John, Eastertyre, Ballinluig
1905 Scott, John, Shielhill, Stanley
1901 Scott, J Elliot, Inveralmond, Perth
1883 Scrimgeour, Peter, Balboughty, Perth
1904 Scrimgeour, William, Bowhouse Farm, Scone, Perth
1891 Seaton, Donald, Cronan, Coupar-Angus
1890 Sellar, James T W S, Perth
1896 Shaw, James, Aberfeldy
1902 Shaw, Robert, 24 King Street, Perth
1896 Simpson, James, Friarton, Perth
1889 Sinclair, John, Greenhill, Dunning
1887 Smart James, Architect, Perth
1891 Smith, James, Cranley, Meikleour
1896 Smith, John F, Eastfield, Bridge of Earn
1905 Smith, Robt, Burnside Farm, Stanley
1900 Smith, William, Logiebrae, Blairgowrie
1876 Smythe, Colonel David M, of Methven, Perth
1889 Speedie, Matthew, Pitversie, Abernethy
1881 Speid, James, Forneth, Dunkeld
1896 Stark, James, Coates of Fingask, Perth
1890 Stead, W F, Ballindean House, Inchture
1880 Steel, Adam, of Blackpark, Perth
1896 Stephenson, John B, Pitillock, Glenfarg
1905 Steuart Captain J M, of Ballechin, Strathtay
1891 Stevens, A B, Mains of Kilgraston, Bridge of Earn—*Free Life Member*
1893 Stewart, Alex Blair, Balnakeilly, Pitlochry
1896 Stewart, Alexander, Lodge, Logiealmond, Perth
1899 Stewart, Alex, Netherton, Fonab, Pitlochry
1905 Stewart, Archd A. (Glenfernate), Blair Atholl
1877 Stewart, Duncan, Mains of Castle Huntly, Longforgan
1898 Stewart, Duncan, Mains of Balyonkan, Pitlochry
1896 Stewart, Edward G M'K, Nether Logie, Meigle
1870 Stewart, Donald, Clachan, Calvine
1903 Stewart, Donald, Drumchorry, Pitlochry
1881 Stewart, D D, Castlehill, Inchture
1888 Stewart, H D., Strathgarry, Blair Atholl
1900 Stewart, James, Friarton, Perth
1876 Stewart, James, Woodside Farm, Coupar-Angus

Admitted	
1883	Stewart, J. F., Newmill, Stanley
1896	Stewart, Peter, Kirkton of Abernyte, Inchture
1894	Stewart, William, Edradour, Pitlochry
1896	Stratton, David, Clashigar, Logiealmond, Perth
1893	Sutherland, William, Peel, Perth
1890	Tasker, George, Arnbog, Meigle
1899	Tasker, Wm., jun., Cambo, Meigle
1889	Tasker, Wm., East Camno, Meigle
1896	Thom, James, Cambusmichael, Guildtown, Perth
1900	Thomson, Andrew, D.Sc., Perth Academy, Perth
1905	Thomson, Alex., Springfield, Coupar-Angus
1901	Thomson, James Meikle, Viewbank, Coupar-Angus
1906	Thow, John, Rossie Farm, Dunning
1896	Todd, William Drummond, Mains of Gorthy, Methven
1903†	Tullibardine, Marquis of, M.V.O., D.S.O., Dunkeld House, Dunkeld
1901	Watson, Wm., Inchcoonans, Errol
1894	Webster, J. A., Commercial Bank, Perth
1881	Wedderspoon, Thos., Castleton, Meigle
1904	White, Charles D., Guardswell, Inchture
1899	Whitson, Dr James, of Essendy, Blairgowrie
1892	Whitson, W., Isla Park, Coupar-Angus
1884	Whyte, William, Muirhead, Forgandenny
1896	Wilkie, Alexander, Pitlandie, Stanley, Perth
1879	Wilkie, David, Market Hotel, Caledonian Road, Perth
1900	Wilson, Robert T., Craiglochie, Errol
1905	Wilson, Sydney, Woodburn, Craigie Road, Perth
1904	Winton, Edward C., Mains of Dunfallandy, Pitlochry
1896	Wyllie, Scott, Milton of Luncarty, Redgorton, Perth
1894	Wynd, David, Newbigging, Errol
1905	Yool, Thos., Menzies Estate Office, Aberfeldy
1890	Young, John, Balmyle, Meigle
1894	Young, Robert, Dunkenny, Meigle

3.—STIRLING DISTRICT.

EMBRACING THE

COUNTIES OF CLACKMANNAN, DUMBARTON, PERTH (STIRLING SHOW DIVISION), AND STIRLING.

CLACKMANNAN.

Admitted
1880 Alexander, James, Inch of Ferryton, Clackmannan
1900 Allan, John, Meadowend, Clackmannan
1887 Arrol, Arch. T., Mill Grove, Alloa
1878*†BALFOUR of Burleigh, Lord, K.T., Kennet, Alloa
1889 Blair, Charles, Glenfoot, Tillicoultry
1905 Bleloch, James, Estate Office, Dollarbeg, Dollar
1891 Cairns, John, Balquharn, Menstrie
1904 Calder, John Joseph, The Walk, Alloa
1877 Crawford, John, High Street, Alloa
1892 Dobie, W. H., of Dollarbeg. Dollar
1890 Drysdale, William, King o' Muirs, Alloa
1899 Fisher, John, Jellyholm, Alloa
1897 Forbes, Robert, Kennet, Alloa
1908 Forrester, William Andrew, Dollarbank, Dollar
1901 Gall, Thomas, Prince of Wales Hotel, Alloa
1900 Gray, Thomas, Seed and Manure Merchant, Alloa
1896 Haig, Alex. P., Blairhill, Rumbling Bridge
1886 Haig, Robert, Dollarfield, Dollar—*Free Life Member*, 1887
1878 Hare, Colonel, Blairlogie, Stirling
1899 Harvey, Miss L., Blairhill, Dollar
1902 Henderson, Thos., Nether Corsebridge, Alloa
1907 Kemp, Wm., 18 Erskine Street, Alloa
1900 Kerr, J. E., Harvieston Castle, Dollar
1889 Kinloch, Charles, Ochilton, Dollar
1892 Kinross, D. A., Hillend, Clackmannan
1897 Lander, Thomas Eaton, Blairhill, Rumbling Bridge
1888 Lang, James, Aitkenhead Farm, Clackmannan
1906 Lawson, Robt., 49 Primrose Street, Alloa
1891 M'Laren, William, Longcarse, Alloa
1893 M'Nab, Alexander, Middleton Kerse, Menstrie
1890 Mair, William, Gartary, Clackmannan
1890 MAR and KELLIE, The Earl of, Alloa Park, Alloa
1900 Meikle, John, Craigrie, Clackmannan
1900 Moir, Arch. P., Bank Street, Alloa
1873 Moir, Jas. M'Arthur, of Hillfoot, Dollar
1900 Morgan, James, Bows Farm, Alloa
1882 Monbray, John Jas., of Naemoor, Dollar
1906 Paterson, Hugh, Butcher, High Street, Alloa
1893 Peebles, James, Land-Steward, Naemoor, Rumbling Bridge
1869 Robertson, Rev. A. Irvine, Clackmannan

Admitted
1900 Roxburgh, Alex. L., Solicitor, Alloa
1899 Shields, John, Ludgate, Alloa
1891 Sinton, P. J., Dollarbank, Dollar
1899 Smith, Andrew, Hilton, Alloa
1881 Stirling, Robert, Parkhead, Alloa
1897 Sutherland, R. M., Solsgirth, Dollar
1900 Thomson, David, of Greenfield, Alloa
1890 Waddell, Robert, Bridge Street, Dollar
1900 Watson, John, Craigdhu, Clackmannan
1879 Younger, George, Brewer, Alloa
1889 Younger, Jas., Arns Brae House, Alloa

DUMBARTON.

1892 Allan, A. Y., Aitkenbar, Dumbarton
1873 Anderson, John, Merkins, Alexandria
1906 Baird, Montagu William, Keppoch, Cardross
1897 Bauchop, John, Auchentulloch, Alexandria, N.B.
1897 Begg, Malcolm, Blairnile, Luss
1891 Blair, John S., Bencruachan, Helensburgh
1904 Burns, Alan, of Cumbernauld, Cumbernauld, Glasgow
1906 Cameron, Charles Alex., Torloisque, Drumchapel, Glasgow
1876 CAMPBELL, Sir Arch. S. L., of Succoth, Bart., Garscube, Maryhill
1888 Campbell, J. A., of Darleith, Cardross
1889 Campbell, Wm. Middleton, of Colgrain, Helensburgh (23 Rood Lane, London)
1899 Chapman, William, Ballymenoch, Glenfruin, Helensburgh
1899 Chrystal, Wm. J., of Auchendennan, Arden, Dumbartonshire
1905 Colquhoun, Arch. G. Campbell, Garscadden, Drumchapel
1872 COLQUHOUN, Sir James, of Luss, Bart., Rossdhu, Luss
1864 Cousland, James, Broomhill Home, Kirkintilloch
1881 Cullen, William, Bothlyn, Gartcosh
1903 Currie, Malcolm, Stubblebroomhill, Kirkintilloch
1885 Dalrymple, James D. G., of Woodhead, Kirkintilloch
1895 Davie, William, jun., Main Street, Alexandria, N.B.
1877 Dennistoun, J. W., Auchenlea, Row
1868 Douglas, Archibald C., of Mains, Milngavie
1881 Duncan, James, yr. of Auchendavie, Kirkintilloch
1881 Duncan, John, of Auchenbee, Croy

Admitted
1881 Duncan, Thomas, Dullatur, Cumbernauld
1857 Ewing, Alexander Crum, of Strathleven, Dumbarton
1896 Ferguson-Buchanan, Colonel G. J., of Auchentorlie, Bowling
1897 Ferrier, Alex., The Mill, Cardross
1880 Findlay, R. E., of Boturich, Balloch
1897 Fleming, Alex., Drumkinnon, Alexandria, N.B.
1881 Gilmour, William E., Woodbank, Alexandria
1896 Gray, James, Commercial Bank House, Kirkintilloch
1897 Howie, James L., Clachan, Roseneath, Glasgow—*Free Life Member*
1864 Jack, John S., Adrigbank, Milngavie
1899 Jardine, Andrew, Ballymenoch, Glenfruin, Helensburgh
1878 Ker, T. Ripley, of Dougalston, Milngavie
1899 Kippen, William James, of Westerton, Balloch
1897 Lawson, John, Killermont, Maryhill
1875 Lumsden, James, of Arden, Dumbartonshire
1905 Lumsden, James, yr. of Arden, Dumbartonshire
1888 MacBrayne, David, of Glenbranter, Auchenteil, Helensburgh
1892 M'Farlan, Coll Jas. Turner, Stronafyne, Arrochar
1892 Macfarlan, Parlan, Faslane, Garelochhead
1878 M'Farlane, Colin, Strone, Glenfruin, Garelochhead
1873 M'Farlane, Duncan, Greenfield, Garelochhead
1905 M'Kean, John, of Dam of Aber, Alexandria, N.B.
1865 Mackenzie, John, Willow Burn, Clynder
1897 Mackenzie, Robert C., of Edenbarnet, Duntocher
1838 Mackenzie, Robert D., of Caldarvan, Balloch
1888 M'Lean, Thos., Banker, Alexandria
1857 M'Niven, Alex., Springbank, Helensburgh
1883 Murray, David, LL.D., Moore Park, Cardross
1881 Park, Alex., Ingleside, Lenzie
1883 Rankin, Robert, Bodenheath, Condorrat, Glasgow
1894 Russell, Wm., Ard-Luss, Helensburgh
1905 Scott, James, Easter Cadder Farm, Kirkintilloch
1897 Snodgrass, James, Millig, Helensburgh
1906 Stewart, W., Milton, Duntocher
1897 Watkinson, Robt., Balloch Hotel, Balloch
1894 Weir, James, Woodilee Farm, Lenzie—*Free Life Member*
1882 Whitelaw, Alex., of Gartshore, Croy
1856 Young, James, Broadholm, Duntocher

PERTH

(Stirling Show Division).

1883 Anderson, A. H., Kippendavie Estate Office, Dunblane
1900 Ballingall, David, Blairdrummond
1903 Barty, Alex. Boyd, LL.B., Solicitor, Dunblane
1904 Barty, James, LL.B., Solicitor, Dunblane
1873 Barty, James W., LL.D., Solicitor, Dunblane
1883 Blackett, J. S., Inverard, Aberfoyle
1906 Brebner, Robert Fred., Estate Office, Gartmore

Admitted
1899 Bryce, William, West Cambusdrennie, Stirling
1899 Buchanan, John Hamilton, of Leny (4 Doune Terrace, Edin.)
1906 Cairns, James, Coulshill, Auchterarder
1900 Cairns, Robt., St Mungo's, Auchterarder
1861 Cairns, William, Belhie, Auchterarder
1900 Cairns, William, Dalchruin, Comrie
1904 Calder, George A., Dunblane
1906 Cameron, Allan, Keilator, Crianlarich
1900 Cameron, Duncan, Bow, Dunblane
1901 Cameron, R. W. G., Drumharvie, Auchterarder
1901 CAMPBELL, Col. Sir Alex., Bart., of Kilbryde, Dunblane (address c/o Messrs Barty, Dunblane)
1896 Campbell, James, Tullich, Killin
1905 Campbell, Colonel John Hasluck, of Inverardoch, Doune
1900 Campbell, Samuel, Locherlour, Crieff
1871 Carrick, Charles, Baad, Stirling
1872 Carrick, T. A., Easter Cambusdrennie, Stirling
1881 Christie, Gilbert, Auchlyne, Luib
1882 Cochran, Wm., Overdale, Dunblane
1879 Craig, John, Innergeldie, Comrie—*Free Life Member*
1880 Craig, Wm., Corriemuckloch, Amulree, Dunkeld—*Free Life Member*
1883 Crawford, Thos., Dumawhance, Crieff
1881 Crerar, Alex., Rock Villa, Callander
1864 Dewar, A., Arnprior, Port of Menteith
1896 Dewar, Peter, Arnprior, Port of Menteith
1894 Dick, James, Ballinton, Kippen Station
1906 Douglas, Daniel, Millwright, Auchterarder
1899 Dron, W. A., Crieffvechter, Crieff
1905 Drummond, Arthur Hay, of Cromlix, Dunblane
1869†Drummond, Col. Home, of Blairdrummond, Stirling
1890 Duncan, Hector Macduff, of Damside, Auchterarder
1905 Duncan, James, Culticheldoch, Muthill
1900 Duncan, John L., Mill of Ogilvie, Blackford
1876 DUNDAS, Sir Chas. Henry, of Dunira, Bart., Comrie
1882 Dundas, Colin M., Commander R.N., of Ochtertyre, Stirling
1900 Ewing, George T., Pitkellony, Muthill
1903 Ferguson, Alexander, Lundie Farm, Doune
1898 Ferguson, James, Glenartney, Comrie
1903 Ferguson, John, Glenartney, Comrie
1902 Fisher, Robert S., Balimore, Balquhidder
1887 Fletcher, Angus, Woodvale, Callander
1861 Gardiner, Robert, of Rottearns, Henhill, Forteviot
1904 Gardiner, Wm., Low Bank, Auchterarder
1905 Gilmour, John, General Merchant, Blackford
1903 Gilholm, Peter, Cromlix, Dunblane
1900 Graham, George, Faraway, Kippen Station
1897 Grahame, A. M. B., Glenny, Port of Menteith
1897 Graham-Stirling, Captain C. Home, of Strowan, Crieff
1859 Grieve, Michael, Wolseley Park, Callander
1881 Hamilton, Alexander, Portend, Port of Menteith
1900 Hamilton, James T., Portend, Port of Menteith
1869 Hamilton J. B. B., of Arnprior, Cambusmore, Callander

Admitted
1901 Henderson, James W, Clarkton Farm, Doune
1906 Henderson, William, Woodside Hotel, Doune
1889 Holmes James, Auchinteck, Dunblane
1904 Jacks, William, of The Gart, Callander
1896 Jackson, Thomas C, Rinaclach, Port of Menteith
1884 Johnston, J S, Fintalich, Muthill
1873 Kinross, Andrew, Drumallan, Dunblane
1905 Lauder, Andrew Scott, Keir Mills, Dunblane
1905 Lauder, Duncan Fullarton, Mollands Farm, Callander
1903 Lauder, John, Mill of Keir Dunblane
1907 Lennox, Jas, Redhills Balgowan Crieff
1907 Lennox, Wm, Easter Dowald, Crieff
1882 M'Ara Alex, Culdees, Muthill
1887 M Callum, Wm R, Ballig, Crieff
1870 M'Culloch, D, Earnholm St Fillans
1896 M Diarmid James, Morenish, Killin
1881 Macdonald, John M S, of Monachyle, Lochearnhead
1902 M'Donald, John, Nether Shannochill, Gartmore Station
1893 M'Dougall John, jun, Benglass, Ardlui
1890 MacEwen Daniel, Merchant, Callander
1888 M'Ewen, John, Cambushinnie Braco
1894 M'Ewen, John, Land Steward, Thornhill, Muthill
1897 MacEwen, Wm, Mains of Boquhapple, Thornhill, Perthshire
1897 Macfarlane, Andrew, Chalmerston, Stirling
1891 Macfarlane, Charles, East Brackland, Callander
1896 Macfarlane Duncan, M R C V S, Doune
1900 M'Intyre, Peter Tighnablair, Comrie
1891 M'Keich, Wm, Netherton, Blackford
1881 Mackie, Peter, East Kirkton, Auchterarder
1896 M'Laren, A, Dall, Ardeonaig, Killin
1906 M'Laren, Rev John, M A, Tulliallan Manse, Kincardine on Forth
1888 M'Laren, W D, Drummore, Doune
1871 M'Naughton, John, Inverlochlarig, Lochearnhead, R S O
1879 M'Naughton, Robert, of Cowden, Comrie
1899 M'Nee, John, Colony Farm, Crieff
1903 Marshall Hugh, Stirling Arms Hotel, Dunblane
1900 Marshall, Wm, Glenwhinnie, Dunblane
1872 Marshall, W H, of Callander (25 Heriot Row, Edinburgh)
1900 Mitchell, James P, Carrat, Stirling
1900 Mitchell, John, Greenyards, Dunblane
1891 Mitchell, William, Blackdub, Stirling
1902 Moir, Wm, Netherton, Kippen Station
1900 Monteath, Robert Biggs Blackford
1898 Muirhead, John, Briarlands, Stirling
1875 Murdoch, George Burn, Gartincaber, Doune—*Free Life Member*
1880 Murray, Anthony G, of Dollerie (11 Hope Street, St Andrews)
1903 Murray, James, Munnieston, Thornhill, Stirling
1873 Murray, John, Munnieston, Thornhill, Stirling
1862 MURRAY, Sir Patrick Keith, of Ochtertyre, Bart, Crieff
1894 Newbigging, Alex, of Dalchonzie, Comrie
1852 Nimmo, Matthew, Baad, Stirling
1892 Pagan, John S, Braendam, Thornhill, Perthshire
1900 Paterson, Alex, Hill of Drip, Stirling
1890 Paterson, James, Burnbank, Stirling
1872 Paterson, James, Lochend Farm, Port of Menteith
1882 Paterson John, Kirkton, Tyndrum

Admitted
1892 Paterson, Robert, Hill of Drip, Stirling
1893 Paton, Robt, Mosscot, Dunblane
1900 Reid, Andrew T, Auchterarder House, Auchterarder
1864 Reid, Walter, Glenhead Cottage, Dunblane
1885 Reid, William, Beechwood, Dunblane
1861 Robertson, David, Allan Hill House, Dunblane
1905 Robertson, Robt, Mill of Drummond, Muthill
1889 Rodger, James, Keir Estates Office, Dunblane
1896 Rogerson, James P, Fendoch, Crieff
1857 ROLLO, Lord, Duncrub House, Dunning
1883 ROLLO, The Hon The Master of
1900 Ross, Charles D, Ibert, Crieff
1896 Scott, George Silverton, Greenloaning
1894 Scott, William, Upper Lanrick, Doune
1902 Scrimgeour John Doune Lodge Doune
1890 Sharp, George R, Middleton House, Blackford
1904 Sharp, James, Baillielands, Auchterarder
1881 Sharp, Jas R, Viewfield, Blackford
1888 Sharp, John, South Forr, Crieff
1900 Sharp, Thomas M, Bardrill, Blackford
1882 Sheppard, Rev H A G, of Rednock, Port of Menteith
1870 Speir, R T N, Culdees Castle, Muthill
1875 Stark, M C, Westerton Farm, Doune
1900 Stewart, Alex, Corscaplie, Dunblane
1899 Stewart, Duncan, of Millhills, Crieff (Gibb's Entry, Nicolson Street, Edinburgh)
1877 Stewart, Duncan, Glenmane, Callander
1888 Stewart, Col John, of Ardvoirlich, R A, Lochearnhead
1895 Stewart, John, Bochastle, Callander
1882 Stewart, Joseph, Crianlarich, Stirling
1889 Stirling, Arch, of Keir, Dunblane
1900 Stirling, James, Dykedale, Dunblane
1903 Stirling, James, Dykedale, Dunblane
1900 Stirling, John Alex, of Kippendavie, Dunblane
1899 Stirling, John W, Nether Cambushinnie, Braco
1901 Stuart, Capt John, Inverarnan, Ardlui
1890 Taylor, R, Craighead, Blairdrummond, Stirling
1873 Thomson, William, Nyaad, Stirling
1900 Thornton, George B, of Feddal, Braco, Perthshire (78 Princes Street, Edinburgh)
1904 Turner Joseph, of Greenhill, Greenloaning
1900 Walker, William R, Tirarthur, Killin
1882 Wallace, John, of Glassengall, Dunblane
1900 Watt, John, Burnside, Braco, Perthshire
1885 Watters, Thomas, Glenample, Lochearnhead
1905 Whitelaw, Graeme Alex, Strathallan Castle, Machany
1861 Williamson, Col D R, of Lawers, Crieff
1899 Willison, Campbell, Acharn, Killin
1900 Willison, Douglas, Acharn, Killin
1900 WILLOUGHBY DE ERESBY, Lord, M P, Glenartney Forest, Comrie
1864 Wilson, Alexander, Alford House, Dunblane
1905 Wilson, Peter, Mill of Gask, Auchterarder
1904 Young David, Hilton of Gask, Auchterarder

STIRLING.

Admitted
1905 Adam, James, Muir Park, Denny
1900 Aitken, Thomas, The Grove, St Ninians, Stirling
1901 Aitkenhead, Walter, Meadowbank, Polmont
1878 Aitkenhead, Wm., Roughlands, Carron
1907 Baird, John Calderwood, Birchfield, Falkirk
1900 Barns-Graham, Allan, yr. of Craigallian, Milngavie
1876 Best, John, Inveravon, Polmont
1899 Blackburn, Colonel Peter, of Killearn, Killearn House, Glasgow
1886 Bolton, Edwin, of Carbrook, Larbert
1893 Boyle, A. H., Banknock House, Castlecary
1888 Brown, Charles, Kerse Estate Office, Falkirk
1882 Brown, John, Brownville, Kilsyth
1900 Brown, John, Dalderse, Falkirk
1882 Brown, John A. H., Dunipace, Larbert
1905 Brown, John, 51 Murray Place, Stirling
1897 Buchan, Robert, Dalgrain, Falkirk
1897 Buchanan, Andrew C., Whitehouse, Stirling
1877 Buchanan, D. M. B., of Boquhan, Balfron
1877 Buchanan, John, Gartness, Killearn
1876 Buchanan, Robert, Blairquosh, Strathblane
1882 Buntine, J. R., Sheriff-Subt., Stirling
1891 Cairns, William, Muirpark, Cambus
1900 Campbell, Robert, Auchenbowie, St Ninians
1900 Carswell, John, Graham Road, Grahamston, Falkirk
1873 Christie, James, Coxethill, St Ninians
1900 Clark, Alex., Stonehouse, Bothkennar, Carron
1894 Clarkson, Robert, Avondale, Polmont
1882 Couper, James, of Craigforth, Stirling
1899 Crawford, Ewing R., of Auchentroig, Bucklyvie
1894 Dempster, John, Logie Cottage, Airthrey, Bridge of Allan
1900 Dewar, Andw., Douglas Terrace, Stirling
1900 Dewar, John W., King's Park, Stirling
1899 Dewar, Peter, King's Park, Stirling
1906 Downie, Robert, Knock O'Ronald, Gargunnock
1890 Drummond, James W., Seed and Nursery Establishment, Stirling
1891 Drysdale, John, Arngibbon, Port of Menteith Station
1907 Dundas, David J. W., Craigarnhall, Bridge of Allan
1901 Eadie, John, Blair Mains, Stirling
1869 Edmond, David, of Ballochruin, Balfron
1881 Edmond, John, Galamuir, Bannockburn
1889 Edmonstone, Sir Arch., of Duntreath, Bart., Duntreath Castle, Strathblane
1862 Erskine, H. D., of Cardross, Stirling
1882 Ewing, Sir A. E. Orr, of Ballikinrain, Bart., Killearn
1906 Fisher, Daniel, Garchill, Bucklyvie
1897 Finlayson, Wm., Throsk, Stirling
1890 Fisher, Daniel, of Ballamenach, Bucklyvie
1860†Forbes, William, of Callendar, Falkirk
1888 Fraser, John, Balfunning, Drymen
1900 Fyfe-Jamieson, James F., Old Ballikinrain, Balfron
1900 Galbraith, Alexander, 14 Port Street, Stirling
1893 Gall, William R., Contractor, Stirling
1897 Gillespie, W. W., Kersie Bank, South Alloa
1890 Graham, Alastair E., of Leckie, Gargunnock

Admitted
1894 Graham, Donald N., Airthrey Castle, Bridge of Allan
1894 Graham, Jas. D., Airthrey Castle, Bridge of Allan
1873 Gray, Andrew, West Plean, Bannockburn
1873 Gray, James, Kersie Mains, Stirling
1891 Gray, James, jun., Birkenwood, Gargunnock
1901 Gray, John (Gray & Co., Grain Merchants), Stirling
1897 Grigor, John, Factor, Sauchie Burn, Stirling
1905 Haldane, William, Colaba, Bridge of Allan
1873 Henderson, A. W., Bridge of Allan
1900 Hetherington, William, 27 Port Street, Stirling
1898 Horsburgh, Charles E., Blairquhosh, Strathblane
1881 Jaffray, William, Wester Barnego, Denny
1877 Jardine, Wm., Millhouse, Fintry
1884 Kay, Andrew, Little Kerse, Kippen
1875 Kay, Charles, Mill Farm, Gargunnock
1905 King, Andrew B., Antermony House, Milton of Campsie
1868 King, C. M., Antermony House, Milton of Campsie
1857 King, Sir James, of Campsie, Bart., Carstairs House, Carstairs Junction
1894 Kinross, Henry (J. Gartshore & Sons, Grain Merchants), Falkirk
1864 Kinross, John, St Leonards, Causewayhead, Stirling
1907 Lang, James, Bield, Gargunnock
1900 Latta, Robert M., Dougalston, Milngavie
1880 Learmonth, George G., Green Bank House, Falkirk
1901 Learmonth, Jas., 2 Bank Street, Falkirk
1899 Leckie, John, Inchwood, Milton of Campsie
1891 Lowe, P. R., Abbotsford, Bridge of Allan
1900 Macadam, Archibald, Blairoer, Drymen Station
1900 Macadam, John, Bank House, Balfron
1900 M'Cowan, James, Ashentree, Kippen Station
1894 M'Farlan, Parlan, Shore Wharf, Stirling
1906 M'Farlane, George, 11 Princes Street, Stirling
1901 Macfarlane, James, Millhall, Stirling
1891 Macfarlane, James, Oxhill, Bucklyvie
1886 Macfarlane, Robt. C., Craigforth Mills, Stirling
1900 M'Feat, Robert, Offers Farm, Gargunnock, Stirling
1900 M'Grigor, Alex., Beechwood, Stirling
1889 Mackenzie, Robert, yr. of Caldarvan Westerton, Bridge of Allan
1891 M'Kerracher, Daniel, Raploch, Stirling
1869 M'Kinlay, John, Middlestrath House, Avonbridge
1873 M'Lachlan, Archibald, 4 Irvine Place, Stirling
1901 M'Lachlan, John, 20 Barnton Street, Stirling
1887 M'Laren, D., Cornton, Bridge of Allan
1891 M'Laren, James, Bandeath, Stirling
1885 M'Laren, J. T., Factor, Polmaise, Stirling
1903 Maclean, Donald, Peatriggend House, Slamannan
1900 M'Naughton, Robert, 9 Douglas Terrace, Stirling
1880 Malcolm, W. T., Dunmore, Larbert
1901 Marshall, Allan, Mid Lecropt, Bridge of Allan
1882 Melville, John H., Eriden, Falkirk

Admitted
1903 Mitchell, Arch., Waterslap, Larbert
1890 Mitchell, David, of Millfield, Polmont
1905 Mitchell, Stephen, of Boquhan, Kippen
1881 Moir, Alexander, Nether Carse, Gargunnock
1901 Monteath, John, Wright Park, Kippen
1876*†MONTROSE, The Duke of, K.T., Buchanan Castle, Drymen
1876 More, John, Fordhead, Kippen
1882 Morries, J. M., Gogar, Stirling
1880 Morton, David, 1 Pitt Terrace, Stirling
1903 Morton, David L., King Street, Stirling
1873 Murray, James, of Touchadam and Polmaise Castle, Stirling
1878 Murray, Patrick, 1 Glebe Avenue, Stirling
1895 Murray, W. Watson, Catter House, Drymen
1899 Neilson, William, Haining Valley, Linlithgow
1898 Oliver, Capt. Wm. James, Forthside, Stirling
1905 Orr, Andrew, Coldrach, Drymen
1905 Paterson, John, Wester Frew, Kippen Station
1896 Paton, Thomas, 10 Victoria Square, Stirling
1895 Peareth, John Lennox, Lennox Castle, Campsie Glen, Stirlingshire
1901 Peat, Alex., Manor Farm, Blairlogie, Stirling
1881 Pollock, J. J., of Auchineden, Strathblane
1887 Pullar, Edmund, Coneyhill House, Bridge of Allan
1868 Rankine, R. W., Rosebank, Falkirk
1891 Rawding, George, Munglehead Road, Bainsford, Falkirk
1899 Rennie, William, Parkhead, Slamannan
1900 Risk, John, 18 Park Crescent, Stirling
1900 Risk, John, Culmore, Kippen, Stirling
1852 Ritchie, Wm., Plean Mill, Airth
1873 Sands, James, Greenfoot, Gargunnock
1881 Scott, Rev. John, Camelon Manse, Falkirk
1884 Scott, Thomas, South Woodend, Castlecary Station, Glasgow
1872 Scoular, John, Crook, Stirling
1899 Shorthouse, George W., Sauchie Estates Office, Stirling

Admitted
1900 Smart, James, Lower Canglour, Stirling
1893 Smith, James Kemp (Messrs Kemp & Nicholson), Stirling
1889 Speedie, John C., Stirling
1902 Steel-Maitland, A. D., of Sauchie, Stirling (72 Cadogan Square, London, S.W.)
1901 Steel-Maitland, Mrs, of Barnton, Sauchie Burn, Stirling
1881 STEUART, Sir Alan H. Seton, of Touch, Bart., Stirling
1897 Stevenson, Arch., Golden Lion Hotel, Stirling
1882 Stevenson, John, Castlecary Station, Glasgow
1904 Stewart, D. Y , Balgrochan, Torrance
1868 STIRLING, Sir C. E. F., of Glorat, Bart., Milton of Campsie
1905 Stirling, Commander Millar, of Craigbarnet, R.N., Campsie Glen
1877 Taylor, Robert, Solicitor, Stirling
1879 Thomson, James, Coach Works, Stirling
1906 Thomson, John Jas., Myrehead, Linlithgow
1897 Thomson, Robt., Queenshaugh, Stirling
1900 Thomson, William, Cauldbarns, Stirling
1904 Thornley, Thomas, Camelon Works, Falkirk
1875 Ure, George, Wheatlands, Bonnybridge
1875 Ure, George R., Hope Park, Bonnybridge
1898 Wallace, T. Douglas, Callendar Estates Office, Falkirk
1903 Walls, James, Muirton, Stirling
1873 Walls, Robert, Kerse Mills, Stirling
1877 Watson, John, Skipperton, Denny
1871 Waugh, Allan, Avonbridge, Falkirk
1881 Wilson, David, of Carbeth, Killearn
1864 Wilson, E. L., Bannockburn
1896 Wilson, John E., Burnside, Alva
1881 Wilson, William, Viewforth House, Bannockburn
1891 Wilson, William Ralph, Hill Park, Bannockburn
1867 Young, Andrew, 4 Clarendon Place, Stirling
1873 Young, William, Taylorton, Stirling
1896 Yuille, Andrew B., Bellevue, Bridge of Allan

4.—EDINBURGH DISTRICT.

EMBRACING THE

COUNTIES OF EDINBURGH, HADDINGTON, AND LINLITHGOW.

EDINBURGH.

Admitted
1905 Aikman, James Arch., 6 Glencairn Crescent
1901 Ainslie, James, Tor, Murrayfield, Edinburgh
1899 Ainslie, Robert, Dodridge, Ford, Dalkeith
1865 Aitchison, Lieut.-Col., of Drummore, Musselburgh
1899 Aitken, Alfred N. G., S.S.C., 12 Queen Street
1906 Aitken, John, M.R.C.V.S., Causewayside, Edinburgh
1889 Alexander, A., 34 St Andrew Square
1899 Alison, John P., D'Arcy, Dalkeith
1899 Alison, Robert Barclay, W.S., 11 South Learmonth Gardens
1875 Allan, James, jun., 2 Walker Street
1878 Allan, John, 22 St Albans Road
1906 Allan, John, 2 ,Commercial Street, Leith
1892 Allan, Thomas, Clifton, Mid-Calder
1899 Allan, William, Redhaughs, Corstorphine
1904 Allan, William, M.A., B.Sc., 13 George Square
1906 Allison, James, Carlowrie, Kirkliston
1893 Allison, James, Claylands, Ratho
1899 Allison, R., Lauriston, Davidson's Mains
1899 Alston, James, Heriot Mill, Heriot
1902 Amour, James, Cramond Bridge
1877 Anderson, Charles, 377 High Street
1877 Anderson, David, 9 Mertoun Place
1904 Anderson, George B., Torphichen Arms Hotel, Mid-Calder
1884 Anderson, J. R., W.S., 52 Palmerston Place
1884 Anderson, R. K., 377 High Street
1881 Anderson, W. M., 18 Wester Coates Gardens
1899 Anderson, W. W., Colzium, Kirknewton
1873 Andrew, Robert, 33 Haymarket Terrace
1876 Archbald, T. B., 36 Craigmillar Park
1900 Archibald, Adam, Overshiels, Stow
1885 Ardwall, Hon. Lord, 14 Moray Place
1900 Armstrong, John, Saughton Vale, Murrayfield
1887 Armstrong, W. J., 57 Manor Place
1900 Arnott, P. R., 10 Murrayfield Road
1894 Babington, William, 110 George Street
1893 Bailey, Col. F., Professor of Forestry, Edinburgh University, 7 Drummond Place
1902 Baillie, John, Rosebank, Currie
1894 Baird, Archibald, M.R.C.V.S., 40 York Place
1879 Balfour, Professor I. B., Inverleith House
1883 Bardgett, John, 22 Broughton Street—*Free Life Member*

Admitted
1907 Bathgate, Chas. P., Middleton Home Farm, Gorebridge
1901 Bathgate, William Thomson, Middleton Lime Works, Gorebridge
1878 Beattie, W. J. P., Edinburgh Hydro., Slateford
1882 Belfrage, A. J., Durham House, Portobello
1895 Bell, David, Mervue, Ferry Road
1906 Bishop, Thomas, 35 Charlotte Street, Leith
1891 Black, A. D. M., W.S , 28 Castle Street
1896 Black, William, Glenlyon, Ettrick Road
1899 Blackwood, Geo. Wm., Gogar Mount, Ratho Station
1899 Blackwood, Jas. Hugh, Gogar Mount, Ratho Station
1907 Blackwood, J. Lionel, 23 Inverleith Place
1862 Blackwood, William, 45 George Street
1905 Blaik, Hugh, Oak Inn, Corstorphine
1879 Blair, Patrick, W.S., 19 Ainslie Place
1899 Blyth, Benjamin Hall, C.E., 17 Palmerston Place
1907 Borthwick, A. W., Royal Botanic Garden, Inverleith Row
1899 Borthwick, W., Marchwell, Ratho
1902 Boyd, Alexander, Broompark, Corstorphine
1905 Boyd, Thomas, 36 Salamander Street, Leith
1897 Brand, David, 3 Parliament Square
1857 Brockley, Robert M., Gourlaw, Rosewell
1907 Brown, John, Jedville, Corstorphine
1881 Brown, Richard, C.A., 23 St Andrew Square
1892 Brown, Robert, Selms Farm, Kirknewton
1907 Brown, Walter, Jedville, Corstorphine
1882 Brown, Wm., Currievale, Currie
1903 Brown, Wm., Vellore, Polmont Station
1885 Brownlee, George, Longthorn, Dalkeith
1877 Bruce, E., 26 Greenside Place
1900 Bruce, William, B.Sc., Edinburgh and East of Scotland College of Agriculture, 13 George Square — *Free Life Member*
1878 Bryce, And., Craigentinny, Edinburgh
1853*†Buccleuch and Queensberry, The Duke of, K.T., Dalkeith House, Dalkeith
1880 Buchan, Alex., LL.D., 2 Dean Terrace
1902 Buchan, Andrew, East Ingliston, Ratho Station
1902 Buchan, Robert, Bonnington Farm, Wilkieston
1882 Buchanan, Ben., Springbank, Corstorphine
1892 Buchanan, Charles, Land Steward, Penicuik

Admitted
1899 Buchanan, James R., Adambrae, Mid-Calder
1872 Buchanan, John, C.E., 12 Hill Street
1894 Buchanan, Robert, Livingston Mill, Livingston, Mid-Calder
1884 Burn, C. M. P., Prestonfield House, Edinburgh
1906 Byres, William, Baadsmill, West Calder
1906 Cadell, George, 20 Murrayfield Drive
1878 Caird, Alex. M'Neel, 35 Howard Place
1891 Cairns, T. M., A.M.I.E.E., Consulting Engineer, Scotsman Buildings
1887 Cairns, William, Dairyman, Fountainbridge
1905 Calder, James Charles, 26 Royal Terrace
1887 Callander, Henry, of Preston Hall, Dalkeith
1889 Campbell, Arthur, 4 Randolph Crescent
1889 Campbell, George, W.S., 51 Castle Street
1895 Campbell, James, Illieston, Mid-Calder
1902 Campbell, John T., jun., Shothead, Balerno
1890 Campbell, P. W., W.S., 25 Ainslie Place
1889 Carfrae, Geo. Somervel, C.E., 1 Erskine Place
1887 Chiene, Prof., 26 Charlotte Square
1899 Chiene, Hall C., C.A., 3 Albyn Place
1862 Christie, C. J., 6 Glenorchy Terrace
1901 Christie, Harry Duncan, Gordon Terrace, Craigmillar Park
1884 Christie, Wm., Braemar, Whitehouse Terrace
1899 Clark, John, Balleny, Balerno
1899 Clark, John, S.S.C., 2 Bellevue Terrace
1899 Clark, Thos. Bennet, C.A., 64 Queen Street
1905 Clark, Wm. W., Blackhope, Heriot
1895 Clay, Alexander Thomson, W.S., 24 Charlotte Square
1905 Cleghorn, James, Craigour, Gilmerton
1876 CLERK, Sir George Douglas, of Penicuik, Bart.
1875 Clerkson, Alex., 3 Pembroke Place
1893 Cochrane, Walter, Fairfield, Kinnear Road
1894 Connell, Isaac, Secretary, Chamber of Agriculture, 10 North St David Street
1884 Cook, Charles, W.S., 61 Castle Street
1882 Cook, Sir Henry, K.C.B., W.S., 61 Castle Street
1892 Cook, James, Arniston, Gorebridge
1885 Cook, William Home, C.A., 42 Castle Street
1860 Cowan, C. W., Dalhousie Castle, Bonnyrigg, Mid-Lothian
1898 Cowan, David, 22 St Andrew Square
1872 Cowan, George, Tournaveen House, 1 Gillsland Road, Colinton Road
1899 Cowan, James, 13 Assembly St., Leith
1879 Cowan, John, W.S., 31 Charlotte Square
1879 Cowan, John, 2 St Andrew Square
1906 Cowan, Kenneth, 12 Church Hill
1902 Cowper, John E. B., Gogar House, Corstorphine
1896 Crabbie, George, of Blairhoyle, 8 Rothesay Terrace
1907 Craig, A. A. Gibson, yr. of Riccarton, Currie
1863†CRAIG, Sir J. H. Gibson, of Riccarton, Bart., Currie—*Honorary Treasurer*
1900 Craig, John, 12 Dalkeith Road
1877 Craig, Dr William, 71 Bruntsfield Place
1897 Craig, William Cumming, 9 Learmonth Terrace
1883 Cranston, Robert, 28 Lauriston Place
1900 Crawford Robert, of Newbank, Trinity
1894 Crichton, David, 89 Princes Street
1894 Crichton, Wm., Parduvine, Gorebridge
1899 Croall, James Taylor, Castle Terrace
1899 Croall, John Edmund, Castle Terrace

Admitted
1899 Croall, Robt. Douglas, Castle Terrace
1858 Crombie, Alex., University Club, Princes Street
1902 Crombie, Thos., 66 Queen Street
1883 Cross, Adam P., Bernard Street, Leith
1880 Cross, Alex., 15 Coburg Street, Leith
1900 Cross, Robert, 13 Moray Place
1897 Cumming, Robert, 10 North St David Street
1870 Cunningham, C., V.S., Slateford
1894 Cunningham, Lawrence, Thornbank, Juniper Green
1898 CUNYNGHAM, Sir Wm. Dick, of Prestonfield, Bart. (c/o Gillespie & Paterson, W.S., 31 Melville Street)
1869 Curror, John F., F.S.I., Land Valuator, 118 Thirlestane Road
1873 Curror, P. R., Burdie House, Loanhead
1862 DALRYMPLE, Sir Charles, of New Hailes, Bart., M.P., Musselburgh
1873 Dalziel, George, W.S., 66 Queen Street
1888 Dalziel, William, Muirhousedyke, West Calder
1904 Darling, Robert, Fairfield House, Dalkeith
1880 Davidson, Geo. P., 14 Melville Street
1877 Davidson, James I., Saughton Mains, Corstorphine
1888 Davidson, W. S., 60a George Street
1877 Dewar, James Cumming, of Vogrie, Ford
1883 Dewar, John R. W., V.S., Principal Dick Veterinary College, 8 Clyde Street
1899 Dick, John, Parkhead, West Calder
1893 Dick, Thomas, Wester Causewayend, Kirknewton
1884 Dickson, James, Damhead, Loanhead
1903 Dickson, Leonard W., 45 Manor Place
1907 Dickson, Robt., Braefoot, Corstorphine
1878 Dickson, W. T., W.S., 11 Hill Street
1901 Dickson, Wm. E., Railway Inn, Colinton
1866 Dobbie, John M'Hutchen, Campend, Dalkeith
1898 Dobbin, Leonard, Ph.D., 7 Cobden Road
1900 Dods, Thomas Watson, Kippilaw, Dalkeith
1902 Douglas, Abram, Dalkeith Mills, Dalkeith
1884 Douglas, James, Cousland, Dalkeith
1907 Douglas, Loudon M., 3 Lauder Road
1899 Douglas, Walter, Mayfield, Dalkeith
1858 Dowell, Alex., 13 Palmerston Place
1894 DRUMMOND, Sir James H. Williams, of Hawthornden, Bart., Lasswade
1902 Dudgeon, Miss Ada, 12 St Catherine's Place
1895 Dudgeon, Alex. H., 12 St Catherine's Place
1856 Dudgeon, J. B., 6 Grosvenor Gardens
1900 Dun, John S., of Gilston, Heriot
1902 Duncan, John T. (Drummond Brothers), India Buildings, Victoria Street
1884 Duncan, Peter, Belmont, Dalkeith
1887 DUNDAS, Hon. Lord, 11 Drumsheugh Gardens
1898 Dundas, Capt. Robert, yr. of Arniston, Gorebridge
1878 Dundas, Ralph, W.S., 16 St Andrew Square
1847 DUNDAS, Sir Robert, of Arniston, Bart., Gorebridge
1880 Dundas, William J., C.S., 16 St Andrew Square
1877 DUNEDIN of Stenton, Lord, 7 Rothesay Terrace
1872 Dunlop, George, W.S., 20 Castle Street
1905 Durie, John, 54 Albany Street
1878 Dykes, James, Cuicken, Penicuik
1904 Eaglesham, James, Crookston, Inveresk
1877 Elder, James, Rodinglaw, Currie

Admitted
1892 Elder, Samuel, Whitehill Mains, Musselburgh
1906 Elliot, Thos., 6 Mansfield Place
1906 Elliot, Walter, 6 Mansfield Place
1867 ELPHINSTONE, Hon. E. B., Inveresk Lodge, Musselburgh
1898 ELPHINSTONE, Lord, Carberry Tower, Musselburgh
1875 Fernie, James A., Smeaton, Dalkeith
1899 Findlay, John R., 27 Drumsheugh Gardens
1890 Fisher, Thomas, Whitehill, Rosewell
1893 Fleming, John, Coates, Penicuik
1875 Fletcher, John D., 44 Garscube Terrace
1905 Fogo, J. Row, of Row, 41 Castle Street
1865 Foggo, R. G., Western Terrace, Murrayfield
1878 Ford, G., Saughton Hall Mains, Gorgie
1871 Forgan, Andrew, 10 Claremont Terrace
1863 Forrest, Peter, The Hird, Braid Avenue
1877 Foulis, David, 61 George Street
1868 Fraser, Alex., 17 Eildon Street
1907 Fraser, R. Atkinson, 1 Forres Street
1865 Fraser, William, 8 Comely Bank Terrace
1899 Fullarton, John, Mid-Kinleith, Currie
1861 Fyfe, Robert, 22 Viewforth Gardens
1906 Fyfe, William, 4 Wolseley Place
1894 Gardner, Adam, Melville Grange, Gilmerton
1902 Gardner, Daniel, Langhill, Roslin
1877 Gardner, William, East Langton, Mid-Calder
1886 Garson, Wm., W.S., 5 Albyn Place
1899 Gibson, James P., 33 Regent Terrace
1886 Gibson, Rev. John, 22 Regent Terrace
1889 Gibson, Thos., East Merchiston Villa, 4 Colinton Road
1895 Gibson, Thomas R., Bainfield Iron Works, Fountainbridge
1896 Gilbert, T. Johnson, 10 Warriston Crescent
1899 Gillespie, Alex. L., 13 Assembly Street, Leith
1890 Gilmour, Col. R. Gordon, C.B., D.S.O., of Craigmillar, Edinburgh
1869†Glendinning, G. R., Tyne Lodge, Grange
1874 Glendinning, J. P., Overshiels, Mid-Calder
1896 Glendinning, Patrick B., Tyne Lodge, Grange Loan
1902 Gow, Peter D., Bonaly, Colinton
1893 Graham, David, Northfield, Duddingston, Edinburgh
1905 Graham, James, Windlestrawlee Farm, Ferry Road, Eginburgh.
1904 Graham, John (Mutter, Howie, & Co.), 24 Market Street
1905 Graham, Robert, Dalhousie Mains, Dalkeith
1873 Granger, Andrew, 15 Leamington Terrace
1861 Gray, James, Braehead Mains, Cramond Bridge
1884 Gray, James, Harperigg, Kirknewton
1899 Gray, James L., Elginhaugh, Dalkeith
1878 Gray, Robert Smith, Southfield, Duddingston
1899 Gray, William, Braehead, Cramond
1901 Green, Chas. Edward, The Hollies, Gordon Terrace, Craigmillar Park
1870 Greig, James A., 98 Findhorn Place
1877 Greig, R. M., 65 Braid Road
1889 Grey, John Edward, 20 Lauriston Place
1907 Guest, Edward Graham, 5 Newbattle Terrace
1893 Guild, Alex., Aberlady Mains, Aberlady (5 Rutland Square)
1877 Gulland, W. J., Monkton Hall, Musselburgh

Admitted
1904 Gunning, Thomas, Russelfield, Corstorphine
1884 Guthrie, Wm., 22 Viewforth Terrace
1899 Haldane, Francis G., W.S., 4 North Charlotte Street
1899 Haldane, R. Stuart, 2 Seaview Terrace, Joppa, Portobello
1907 Hamilton, David Rae, Catcune Mills, Gorebridge
1905 Hamilton, James, Old Liston, Ratho
1873 Hamilton, Robert, 18 Waterloo Place
1906 Hamilton, William, 47 George Street
1906 Hamilton, William H., of Cairns, Kirknewton
1900 Hanton, John, Engineer, Dalkeith
1905 Harding, George, 9 George IV. Bridge
1884 Harper, James, Fordel, Dalkeith
1871 Harper, Wm., Sheriffhall Mains, Dalkeith
1906 Heggie, Robert, Bangour Asylum, Uphall
1893 Henderson, Allan M., 66 Frederick Street
1876 Henderson, John, C.A., 40 Leamington Terrace
1899 Henderson, Robert, Craigie, Cramond Bridge
1876 Herdman, B. A., West Pilton House, Davidson's Mains
1902 Herdman, John, 46 Constitution Street, Leith
1899 Herdman, Thomas A., Southside, Gorebridge
1863 Higgins, Robert, 18 Garscube Terrace, Murrayfield
1876 Hogg, Robert, 49 Falcon Avenue
1880 Hogg, Thos., Oxenford Mains, Dalkeith
1893 Hogg, William, jun., 6 Wardie Crescent
1878 HOPE, Sir Alexander, of Pinkie, Bart., Pinkie House, Musselburgh
1877 Hope, James Edward, New Club
1907 Howden, John M., C.A., 8 York Place
1864 Howe, Alexander, W.S., 32 Charlotte Square
1906 Hunter, David, Monkton Lodge, 62 St Alban's Road
1903 Hunter, Frank, W.S., 7 York Place
1877 Hunter, J., jun., Woodhall Mains, Juniper Green
1894 Hunter, John, 37 Chambers Street
1875 Hutchison, Thos., Broomhills, Loanhead
1899 Hutchison, Wm., Burghlee, Loanhead
1877 Inch, Robert, 1 Victoria Street
1869 Inglis, A. W., 30 Abercromby Place
1884 Inglis, H. H., W.S., 8 North St David Street
1899 Inglis, Joseph, W.S., 110 George Street
1902 Inglis, William, Bonnington Mills, Leith
1899 Irons, Jas. Hay (Croall & Sons, Ltd.), Castle Terrace
1898 Irons, George Campbell, 19 Dundas St.
1903 Jack, Alex., Brunstane Mills, Musselburgh
1907 Jack, Arch. G., Crichton Mains, Ford, Dalkeith
1872 Jack, Gavin, Swanston, Lothianburn
1902 Jack, Guy, Hermiston Farm, Hermiston
1905 Jack, J. Douglas, North Gyle, Corstorphine
1860 Jack, Samuel, Crichton Mains, Dalkeith
1869 Jack, Thomas, Hermiston, Currie
1907 Jackson, Richard F., Cathpair, Stow
1874 Jamieson, J. A., W.S., 66 Queen Street
1858 Jamieson, Wm. H., 4 Danube Street
1880 Jenkinson, A. D., 10 Princes Street
1872 Johnson, W. H., Tweed Villa, Relugas Road
1902 Johnston, Andrew, 28 Garscube Terrace
1894 JOHNSTON, Hon. Lord, 33 Moray Place
1862 Jones, Charles Digby, 12 Chester Street
1901 Keay, Dr John, Lunatic Asylum, Bangour, Uphall

Admitted
1906 Keegan, Chas. B., Spittal, Penicuik
1878 Kennedy, Capt. J. B., 34 Murrayfield Road
1888 Kerr, George, 6 St Colme Street
1899 Kerr, Hugh C., Blacksmith, Corstorphine
1902 Kidd, Alex., Nether Lennie, Cramond Bridge
1871 King, J. F., Chambers Street
1903 Kinnear, Norman Boyd, 12 Grosvenor Crescent
1897 Kirk, W. J., 40 Palmerston Place
1896 Kirkwood, W. H., Lothian Bridge, Dalkeith
1899 Knoblauch, Hugo, 22 Baltic Street, Leith
1902 Knoblauch, Louis, Agra Lodge, Bonnington, Edinburgh
1877 Laing, Alex., S.S.C., 67 Great King Street
1893 Laird, Robert, 17 Frederick Street
1895 Lamont, James, 41 Comely Bank Road
1905 Lauder, Alex., D.Sc., F.C.S., 13 George Square
1899 Lauder, Alex., Goshen, Musselburgh
1902 Lawrie, John, Wester Hailes, Juniper Green
1872 Lawrie, John W., Ashbank, Gorebridge
1872 Lawrie, Thos., Esperston, Gorebridge
1899 Lawrie, Thomas, Drylaw, Davidson's Mains
1905 Lawson, Alex. R., Galawater Estate, Fountainhall
1863 Lees, Richard, 9 Braidburn Terrace
1907 Legget, R. Lindsay, 2 Ravelstone Terrace
1897 Leitch, Robert, 2 St Andrew Square
1907 Leslie, Lewis, 6 Maybank Villas, Corstorphine
1905 Lewis, John, Fairfield, Corstorphine
1878 Lindsay, Hugh, Barnet Bank House, Lasswade
1884 Lindsay, Robert, Kaimes Lodge, Murrayfield
1906 Lindsay, R., Sanitary Inspector, County Buildings
1884 **Logan**, Sir C. B., W.S., 23 Queen Street
1898 Logan, Robt. John, 23 Melville Street
1809 Logan, William, Easter Kinleith, Currie
1872 Loney, Peter, 6 Carlton Street—*Free Life Member*, 1892
1898 **Lothian**, Marquis of, Newbattle Abbey, Dalkeith
1874 Lothian, M. J., Redwood, Spylaw Road
1898 Loudon, John, Muldron, Fauldhouse
1902 Love, David, Dean Park, Balerno
1891 Lowe, W. D., W.S., 66 Queen Street
1902 Lowrie, John, 57 Harrison Road
1872 Lyal, William, 83 Comiston Road
1874 McCallum, A. I., 30 King's Stables Road
1882 M'Cowan, Alex., 5 Barnton Gardens, Davidson's Mains
1883 Macdonald, James, 3 George IV. Bridge—*Secretary of the Society*
1886 Macdonald, R. B., Granton Mains, Edin.
1899 M'Dougall, And., Willow Bank, Corstorphine
1878 M'Dowall, T. N., Remote, Dalkeith
1865 Macfie, D. J., of Borthwick Hall, Heriot
1893 Macfie, J. W., of Dreghorn, Colinton
1877 M'Gowan, Robert, 8 Succoth Gardens
1870 M'Gowan, William, 8 Succoth Gardens
1903 M'Intosh, John W., M.R.C.V.S., Eskbank, Dalkeith
1884 Mackay, W. B., 17 Lennox Street
1892 M'Kechnie, Dugald, 60 Northumberland Street
1900 M'Kelvie, James, Hatton House, Kirknewton
1907 Mackenzie, Alex., 19 Greenhill Gardens
1879 Mackenzie, A. D., 14 Greenhill Park
1884 Mackenzie, D. F., Morton Hall, Liberton
1879 Mackenzie, John, W.S., 16 Royal Circus

Admitted
1897 Mackenzie, Stewart, 24 Shandon Street
1882 M'Kerrall, R. M., 11 Rutland Square
1899 Mackinlay, James, 87 Constitution St., Leith
1892 M'Kinnon, George, Melville Castle, Lasswade
1878 Maclagan, R. C., M.D., 5 Coates Crescent
1896 M'Laren, J. D. M., c/o D. M'Laren & Co., Leith
1897 M'Lean, Allan T. L., Duart Lodge, 73 Colinton Road
1902 M'Lennan, George M., 14 Cluny Terrace
1894 M'Leod, A. G., 48 Castle Street
1899 M'Nee, Peter, 92 Grassmarket
1883 Macpherson, C. E. W., C.A., 6 North St David Street
1879 MacRitchie, David, 4 Archibald Place
1907 M'Vitie, Robt., 12 Greenhill Gardens
1876 M'William, Mrs, 22 Forbes Road
1893 Madder, J. W., 4 Elcho Terrace, Portobello
1896 Main, James, Corn Exchange Buildings
1880 Marshall, Rev. Theodore, 22 Queen Street
1903 Martin, John, Letham, Mid-Calder
1867†Martin, John M., Murieston House, Mid-Calder
1886 Massie, W. H., 1 Waterloo Place
1875 Mather, Edward, Marchfield, Davidson's Mains
1899 Mather, Matthew, Silverknowes, Davidson's Mains
1900 Mathison, James, Dean Park, Craigleith, Edinburgh
1900 Mathison, William, of Shoestanes, Heriot
1899 Maxwell, David, 128a George Street
1891 Meikle, R. A., 2 London Street
1886 Melville, G. F., 12 Moray Place
1899 Melvin, Alex., Commercial Bank, 42 Grassmarket
1863 Menzies, D., C.E., 39 York Place
1871 Menzies, Robert, S.S.C., 23 York Place
1899 Mercer, George G., Southfield, Dalkeith
1870 Merricks, H. J., The Retreat, Blackshiels
1892 Methuen, John, Dunforth, Trinity
1884 Methven, John, 6 Bellevue Crescent
1902 Millar, James, Pumpherston Farm, Mid-Calder
1904 Millar, J. A. S., W.S., 20 Castle Street
1905 Millar, J. W., Leyden Park, Bonnyrigg
1897 Millar, Thomas J., C.A., 30 York Place
1893 Milligan, J. M., 5 Royal Terrace
1883 Milne, Alex., 32 Hanover Street
1869 Mitchell, Wm., S.S.C., 11 South Charlotte Street
1876 Moir, Peter, 2 West Richmond Street
1885 **Moncreiff**, Hon. Jas. W., 6 Ainslie Pl.
1907 Moncur, James L., Oreti, 16 Greenhill Terrace
1903 Monteith, Bryden, Tower Mains, Liberton
1903 Morrison, James, 18 George Street
1004 Morrison, John H., Elvarbank, Milton Road, Joppa
1886 **Morton**, The Earl of, Dalmahoy, Wilkieston
1904 Morton, Alex., Merchiston Cottage, 6 Colinton Road
1899 Mouat, Alexander, 17 Claremont Park, Leith
1899 Muir, John, Freelands, Ratho
1899 Muir, William, Newhouse, Kirknewton
1863 Muirhead, George, 30 Charlotte Square
1887 Mungle, John T., West Calder
1905 Munro, Alex. J., 48 Castle Street
1891 Munro, Duncan, 8 Dalrymple Place—*Free Life Member*
1904 Murray, Jas. W., Outerston, Gorebridge
1875 Murray, R. W. E., Blackford House, Blackford Avenue—*Free Life Member*

Admitted
1857 Murray, Thomas, Braidwood, Penicuik
1890 Murray, T. M., W.S., 12 Lennox Street
1905 Murray, Wm., Inglewood, Corstorphine
1885 Murray, Wm. Hugh, W.S., 48 Castle Street
1890 Mylne, James, W.S., 36 Castle Street
1888 Naismith, R. T., 2 Ethel Terrace, Plewlands
1902 Nelson, Thos. Arthur (of Achnacloich), St Leonard's, Edinburgh
1896 Nicholson, W. D., 8 Hartington Gardens
1907 Nisbet, J., Summerlea, Corstorphine
1860 Niven, A. T., C.A., 16 Young Street
1883 Oliver, James, 11 Claremont Terrace
1880 Oliver, John, 12 Viewforth
1900 Panton, John, H.M. Prison, Waterloo Place
1906 Park, Robert, Brunstane, Portobello
1889 Pate, Thomas, Windydoors, Stow
1878 Paterson, James, of Bankton, Mid-Calder
1876 Paterson, J. T. S., Coltbridge House, Edinburgh
1869 Paterson, Thomas, W.S., 15 South Charlotte Street
1890 Patten, Hugh, W.S., 42 Castle Street
1880 Paul, Geo. M., C.S., 16 St Andrew Square
1901 Pearson, Andrew, Dalkeith Park, Dalkeith
1899 Pearson, Dalziel, W.S., 27 Royal Terrace
1878 Pendreigh, George, Upper Dalhousie, [illegible]
1893 Pitman, A. R. C., W.S., 48 Castle Street
1907 Player, Jas. F., M.R.C.V.S., Tollcross
1906 Plenderleith, William, Rosewell Mains, Rosewell
1894 Poole, Wm., Corn Exchange Buildings
1905 Porter, John, B.Sc., 13 George Square
1865 Prentice, R. R., 6 Mayfield Terrace
1899 Pretsell, James, Pentland Mains, Loanhead
1876 Pringle, J., 9 Rothesay Terrace
1899 Pringle, James, Crichton House, Pathhead, Ford
1907 Ralph, Wm., I.S.O., Lisnacree, Corstorphine
1902 Ralston, Gavin W., Advocate, 6 Abercrombie Place
1881 Ramsay, R. G. Wardlaw, of Whitehill, Rosewell
1890 Ramsay, William, of Bowland, Stow
1874 Rankine, Prof. John, 23 Ainslie Place
1887 Readman, J. B., 4 Lindsay Place
1893 Reid, James, W.S., Drem, East Lothian (2 Thistle Court)
1888 Renwick, Andrew, East Pilton, Edinburgh
1879 Renwick, Wm., Meadowfield, Corstorphine
1907 Richardson, Henry E. (of Broadshaw, West Calder), 31 Melville Street
1877 Riddell, A., 5 Grassmarket
1899 RIDDELL, Sir A. Oliver, Craiglockhart House, Slateford
1898 Ritchie, C., 31 Argyll Crescent, Portobello
1869 Ritchie, Charles, S.S.C., 20 Hill Street
1907 Robbie, Arch., Castlepark, Corstorphine
1884 Robertson-Durham, J. A., C.A., 33 Charlotte Square
1876 Robertson, Lieut.-Col. James C., United Service Club, Shandwick Place
1904 Robertson, John, W.S., 66 Queen Street
1905 Rodger, J., Saddler, Corstorphine
1873 Rodgie, Henry, Over Gogar House, Hermiston
1899 Rose, Alex., 58 Grassmarket
1872 Ross, George, 69 Leamington Terrace
1907 Ross, Jas. Paull, W.S., 19 Charlotte Square

Admitted
1905 Runciman, Alex., Hatton Mains, Kirknewton
1902 Runciman, R. H., 30 Haddington Place
1886 Russell, A., 12 Wester Coates Avenue
1899 Russell, A. M., 29 Grassmarket
1893 RUSSELL, Sir James Alex., Woodville, Canaan Lane
1872 Rutherford, A., Lilrig, Belgrave Road, Corstorphine
1887 Rutherford, Richard, V.S., Bread Street
1880 St Clair, J. S., Musselburgh
1892 Sanford, Major Charles Henry, Beeslack, Milton Bridge
1902 Scarlett, Jas. W., Sweethope, Inveresk
1886 Scott, Alex., 66 Netherby Road, Leith
1891 Scott, Rev. Arch., D.D., 16 Rothesay Place—*Chaplain to the Society*
1907 Scott, James, Russelfield, Corstorphine
1898 Scott, John, 12 North St Andrew Street
1904 Scott, John, 42 Braid Crescent
1901 Scott, William, jun., Newbridge, Ratho
1905 Semple, Andrew, Rosebank, Mid-Calder
1848 Seton, Geo., Conservative Club, Princes Street
1899 Shaw, David, W.S., 1 Thistle Court
1899 Shields, Geo. Bertram, Wallyford, Musselburgh
1889 Shiells, James, Muirhouse, Stow
1896 Sime, John, 40 Princes Street
1901 Simpson, John, Halflakill, Tynehead
1906 Simpson, J. Rhys, Cousland, Dalkeith
1898 Simpson, Mark F., Duddingston Farm, Portobello
1878 Simpson, Thomas, Duddingston Farm, Portobello
1874 Simson, C. S., 42 Charlotte Square
1881 Smith, A. D., C.A., 4 York Place
1899 Smith, Geo. Gardiner, Georgeville, Mid-Calder
1895 Smith, Harry W., W.S., 23 Nelson Street
1899 Smith, Henry, W.S., 5 South Charlotte Street
1867 Smith, J. Turnbull, LL.D., 5 Belgrave Place
1877 Smith, Robt., 8 Rochester Terrace
1901 Smith, Robert, Cranston Riddell, Dalkeith
1899 Smith, R. Addison, S.S.C., 19 Heriot Row
1896 Smith, Stephen, 47 George Street
1884 Smith, Thomas H., National Bank, Edinburgh
1884 Smith, William, 7 Grassmarket
1899 Smith, Wm., West Hartwood, West Calder
1899 Snodgrass, Jas., Bryans, Dalkeith
1899 Snodgrass, Matthew W., Langside, Dalkeith
1899 Snodgrass, Peter L., Hopefield, Bonnyrigg
1907 Snow, Charles F., 10 Clifton Terrace
1906 Somerville, John White, Carcant, Heriot
1893 Somner, George (Peter Lawson & Son, Limited), 1 George IV. Bridge
1893 Stark, James, 26 Earl Grey Street
1906 Stark, Robert, Nether Williamston, Mid-Calder
1895 Stedman, James, jun., Middletown, Fountainhall, Mid-Lothian
1861 Stenhouse, Jas., Turnhouse, Cramond Bridge
1899 Stenhouse, John Robert, South Gyle, Corstorphine
1903 Stenhouse, Wm., Springfield Mills, Leith Walk
1884 Steuart, J. H., Belstane, Kirknewton
1886 Stevenson, David Alan, C.E., 84 George Street
1902 Stevenson, Wm. Scott, Secretary, College of Agriculture, 13 George Square
1906 Stewart, Geo., Contentibus, Mid-Calder

Admitted
1881 Stewart, G. M. F., 125 George Street
1893 Stewart, James Robert Hunter, 29 St Andrew Square
1900 Stewart, M. Muir, 11 Eglinton Crescent
1901 Stewart, R. T., Seaforth, Levenhall, Musselburgh
1894 Stewart, William, Dalhousie Castle, [illegible]ig
1899 Stewart, W. M., 5 Inverleith Terrace
1878 Stodart, J. A., Broomvale, Broomieknowe, Lasswade
1890 Stoddart, James Edward, of Howden, Mid-Calder
1878 Strathern, Robt., W.S., 12 South Charlotte Street
1906 Stungo, S. S., 47 Cockburn Street
1865 Sutherland, Jas. B., S.S.C., 10 Royal Terrace
1858 Swan, James, Haymarket
1894 Tait, R. M., c/o Mrs Harle, East Craigie, Cramond Bridge
1906 Tait, Wm. Ferrier, Galaside, Heriot
1893 Taylor, J. Pringle, Dunsmure, Corstorphine
1902 Taylor, James, Lochend Farm, Abbeyhill
1893 Taylor, James (Easter Drylaw), Edinburgh
1884 Taylor, Peter, Lochend
1899 Taylor, Thomas W., Seed Merchant, Dalkeith
1884 Thin, John, Ferniehirst, Stow
1858 Thomson, James, 53 George Street
1895 Thomson, James, yr. of Glenpark, Balerno
1873 Thomson, Sir Mitchell, of Polmood, Bart., 9 South St Andrew Street
1859 Thomson, Peter, Conservative Club, Princes Street
1888 Thomson, Robert, Rusha, West Calder
1899 Thomson, R. J., 2 Wilton Road
1902 Thomson, S. M., 7 Warrender Park Crescent
1900 Thomson, W. W., 21 Chester Street
1906 Tillie, David, Brothershiels, Heriot
1902 Tillie, John, Hangingshaw, Heriot
1902 Tillie, Thos. G., 12 Melbourne Place
1900 Todd, A. Enever, Stoneybank, Musselburgh
1876 Todd, David, 2 Dick Place
1877 Torrance, T. A., Annfield, Lasswade
1899 Trotter, Alex. E. C., Bush, Milton Bridge
1878 Tuke, Dr Sir J. B., M.P., Balgreen, Gorgie, Edinburgh
1874 Turnbull, David, W.S., Hailes, Slateford
1868 Turner, Principal Sir W., 6 Eton Terrace
1873 Tweedie, A. G., 50 Blacket Place
1901 Urmston, Charles Hanson, W.S., 19 Merchiston Place
1896 Usher, Frank James, Norton, Ratho Station
1900 Usher, Sir Robert, of Norton, Bart., 37 Drumsheugh Gardens
1903 Usher, Thomas Leslie, 8 Whitehouse Terrace
1874 Waddell, A. Peddie, 6 Albyn Place
1888 Waddell, George, 21 St Andrew Square
1902 Waddell, Wm., South Melville, Lasswade
1902 Waddell, Wm., jun., South Melville, Lasswade
1857 Wakelin, John, Oil Mills, Musselburgh
1899 Wakelin, J., Agricultural Hall, Valleyfield Street
1877 Walcot, John, Craiglockhart Hydropathic, Slateford
1899 Waldie, D., 25 Douglas Crescent
1899 Waldie, J. Paterson, Haymarket, Edinburgh
1902 Walker, Alex., Cairntows, Liberton
1895 Walker, Graham W., c/o Colquhoun, 9 Merchiston Crescent
1899 Walker, John, 23 Lismore Crescent
1898 Walker, Robt., Kaimes Road, Murrayfield
1882 Walker, R. H., of Hartwood, West Calder
1893 Wallace, J. W., W.S., 11 Claremont Park, Leith
1902 Wallace, Richard, Dreghorn Mains, Colinton
1878 Wallace, Prof. Robert, University, Edinburgh—*Free Life Member*
1902 Wallace, W. B., Broomhouse, Corstorphine
1869 Watherston, James, 29 Queensferry St.
1898 Watson, Gilbert, 2 Chamberlain Road
1882 Watson, G. G., W.S., 4 Glenfinlas Street
1878 Watson, James Graham, 19 Drumsheugh Gardens
1864 Watson, John, Kingsbeck, Cluny Drive
1882 Wauchope, Sir J. D. D., of Edmonstone, Bart., 12 Ainslie Place
1901 Weatherstone, John, Airfield, Dalkeith
1903 Welsh, Robert, Liberton Mains, Liberton
1877 Welwood, J. A. Maconochie, Meadowbank House, Kirknewton
1889 Wemyss, A. W., 3 Arboretum Road
1876 White, James, Stagehall, Stow
1872 White, Robert, 19 Perth Street
1901 White, Robert S., Halkerston, Gorebridge
1893 White, Samuel, Lugate, Stow
1899 White, William, Gortonlee, Lasswade
1902 Wight, A. D., West Bush Oil Mills, Musselburgh
1898 Wight, George, Suffolk House, Suffolk Road
1905 Wight, John, Greenpark, Corstorphine
1884 Wight, Robert, Suffolk House, Suffolk Road
1898 Wilkie, Alex., 219 Bruntsfield Place
1873 Will, Robert W., S.S.C., 37 Queen Street
1899 Wilson, Jas., Torcraik, Gorebridge
1862†Wilson, John, 26 Lauder Road
1858 Wilson, Richard, C.A., 28 Great King Street
1897 Wishart, D. F., 18 Picardy Place
1890 Wylie, James, Royal Bank, Leith
1905 Wyllie, James, The Craigs, Mid-Calder
1884 Wyllie, Alex., 56 Great King Street
1854 Young, Hon. Lord, 28 Moray Place
1902 Young, James, East Craigs, Corstorphine
1896 Young, John, Straiton, Loanhead
1898 Young, Robert, 3 Abbotsford Park
1906 Young, Wm. Jackson, M.R.C.V.S., 39 Leamington Terrace
1870 Younger, Henry J., Abbey Brewery
1899 Younger, H., yr. of Benmore, Abbey Brewery
1899 Younger, J. A. C., Abbey Brewery
1899 Younger, Wm. J., 21 Douglas Crescent

HADDINGTON.

1889 Anderson, Francis, Lindisfarne, North Berwick
1859 Anderson, G. B., Meikle Pinkerton, Dunbar
1873 Anderson, W. W., of Kingston, North Berwick
1892 Baillie, Wm., Nurseries, Haddington—*Free Life Member*
1860 Baird, Sir David, of Newbyth, Bart., Prestonkirk
1863†Balfour, Right Hon. A. J., of Whittingehame, M.P., Prestonkirk

Admitted
1888 Bayley, Isaac F., Halls, Dunbar
1893 Bertram, Andrew, Townhead, Gifford
1898 Binnie, Wm. A. G., Birnieknowes, Cockburnspath
1902 Black, George, Penston, Macmerry
1892 Blair, Thomas, Hoprig Mains, Gladsmuir
1902 Blyth, Andrew, Tyninghame, Prestonkirk
1906 Bowe, W. C., Thorntonloch, Innerwick
1872 Brand, James, Dunbar
1880 Bridges, A. S., Engineer, Haddington
1868 Broadwood, T., Crowhill, Innerwick
1902 Brooks, Andrew, North Elphinstone, Tranent
1899 Brown, Malcolm, Ugston, Haddington
1898 Brown, Wm., Templehall, Ormiston
1900 Buchan, William, Biel Grange, Prestonkirk
1899 Buist, Robert, Whitekirk, Prestonkirk
1899 Cairns, John, Waughton, Prestonkirk
1884 Calder, Robt., Cairndinnies, Haddington
1864 Clark, James, Kirklandhill, Prestonkirk
1893 Clark, John, Saltcoats, Gullane
1880 Clark, Thomas, Oldhamstocks Mains, Cockburnspath
1896 Cockburn, David, Castleton, North Berwick
Connor, G. A., Craigielaw, Longniddry
1897 Cook, Chas. W. L., Woodhall, Pencaitland
1886 Courtney, Wm., Portobello Farm, Tranent
1895 Curr, William Simpson, Ninewar, Prestonkirk
1905 Davie, William, Seedsman, Haddington
1896 Deans, John H., Pitcox, Dunbar
1900 Dickson, James, West Byres, Ormiston
1877 Donald, Andrew, Queenston Bank, Dirleton
1884 ELCHO, Lord, Gosford, Longniddry
1890 Elder, James, Haddington
1890 Elder, Thomas, Stevenson Mains, Haddington
1906 Elliot, Wm. Pringle, Duncrahill, Pencaitland
1907 Ellis, Wm., Murrays, Ormiston
1849 Ford, Wm., Fenton Barns, Drem
1899 Fraser, John H., East Pinkerton, Dunbar
1877 Fyshe, Peter, Newtonlees, Dunbar
1904 Gemmell, William, Greendykes, Macmerry
1899 Gibson, Walter H., Camptoun, Haddington
1889 Gillespie, William, Athelstaneford, Drem
1899 Gillespie, Wm., jun., Athelstaneford, Drem
1855 Gray, William, Brownrigg, North Berwick
1882 Gray, W. W., of Nunraw, Prestonkirk
1876 Greenshields, T. A., Windymains, Salton
1893 Gregor, Charles E., Innerwick, East Lothian
1905 Hadden, Thomas, Chesterhall, Longniddry
1857*†HADDINGTON, The Earl of, Tyninghame, Prestonkirk
1878 HALL, Sir Basil F., of Dunglass, Bart., Cockburnspath
1872 Handyside, J. B., Fenton, Drem
1862 Hay, Captain J. G. Baird, of Belton, Dunbar
1885 Henderson, George, Upper Keith
1893 HEPBURN, Sir Archibald Buchan-, of Smeaton, Bart., Prestonkirk
1907 Hogg, George, jun., Newlands, Gifford
1886 Hope, Harry, Barneyhill, Dunbar
1865 Hope, Henry W., of Luffness, Drem

Admitted
1847 Hope, James, East Barns, Dunbar
1878 Hope, William James, East Barns, Dunbar
1893 Horn, Wm., of Woodcote Park, Blackshiels
1877 Houston, M. H., of Beechhill, Haddington
1887 Hunter, Richard, of Thurston, Dunbar
1899 Jeffrey, James, Deuchrie, Prestonkirk
1884 Kerr, John, Barneymains, Haddington
1873 King, William, jun., Wolfstar, Ormiston
1859 KINLOCH, Sir Alex., of Gilmerton, Bart., Drem
1885 Kinloch, Colonel David A., yr. of Gilmerton, Drem
1898 Kinnaird, Andrew, The Grange, Garvald, Prestonkirk
1893 Lee, Joseph, of Congalton, North Berwick
1863 Lesslie, James, Beanston, Haddington
1905 Logan, David, Saltoun Hall, Pencaitland
1864 M'Ewen, J., Redside Farm, North Berwick
1899 M'Kelvie, William, Duncanlaw, Gifford
1903 Mackie, Alex. Kirk, West Fortune, Drem
1877 Mark, John, Sunnyside, Prestonkirk
1899 Mason, William, Amisfield Mains, Haddington
1899 Matthewson, Adam, Leehouses, Haddington
1900 Maxwell, R. N., Craigielaw Farm, Aberlady
1899 Millar, W., Tranent
1897 Muirhead, Jas., Spittlerigg, Haddington
1870 Murray, David, Quarryford, Gifford
1871 Nelson, Charles, Skateraw, Innerwick
1898 Nicholson, W. L., Gullane
1890 Nisbet, C. C., of Stobshiel, Upper Keith
1889 Ogilvy, H. T. N. Hamilton, Biel, Prestonkirk
1899 Pace, Ferrier, Ormiston Mains, Ormiston
1900 Park, John, Setonhill, Longniddry
1904 Park, Matthew, Hoprig, Macmerry
1866 Park, Thos. B., Springfield, Haddington
1899 Parr, John, Abbey Mains, Haddington
1899 Paterson, Thomas L., Nisbet, Pencaitland
1865 Punton, F. H., The Lodge, Aberlady
1894 Reid, James, Tyneholm, Pencaitland
1904 Richard. J. M. M., Gilmerton, Drem
1898 Riddell, David, West Peaston, Ormiston
1898 Riddell, George, Mungoswells, Drem
1880 Riddell, John, West Peaston, Ormiston
1907 Riddell, John, jun., West Peaston, Ormiston
1862 Riddell, Wm., Cocklaw, Oldhamstocks
1898 Ritchie, J. B., Samuelston, Haddington
1894 Robertson, John, Beanston Mains, Haddington
1874 Robson, John, Millknowe Cranshaws, Duns (Newton, Bellingham)
1895 Ronaldson, George, Kilduff Mains, Drem
1907 Ross, T. F., Muirfield, Gullane
1899 Russell, Charles, West Mains, Haddington
1902 Russell, Thomas, Windygoul, Tranent
1883 Scott, G. R., Commercial Bank, Dunbar
1878 Sharp, John J., Ewingston, Gifford—*Free Life Member*
1877 Shields, James, Longniddry
1899 Shiels, Thomas J., Carfrae, Prestonkirk
1887 Simpson, James, Castlemains, Drem
1868 Smith, Andrew, Markle, Prestonkirk
1882 Smith, E. Hedley, B.L., Whittingehame, Prestonkirk—*Free Life Member*
1908 Smith, George, Craigielaw, Longniddry
1891 Spence, A. G., Long Yester, Gifford
1894 Steven, John, Begbie, Haddington

Admitted
1899 Stewart, Alex. F., Marvingston, Haddington
1907 Stewart, James, Pressmennan, Prestonkirk
1898 Stewart, John, Saughland, Tynehead
1899 Stewart, John, Tanderlane, Prestonkirk
1907 Stewart, John M., Stoneypath, Prestonkirk
1905 Stodart, Hugh, Wintonhill, Pencaitland
1897 Stodart, John, Adinston, Macmerry
1862 Swinton, P. Burn, Holyn Bank, Gifford
1907 Tait, John, Nether Hailes, Haddington
1899 Thomson, Jas., Butcher, Haddington
1859 Turnbull, P., Little Pinkerton, Dunbar
1899 Turnbull, Phipps O., The Brunt, Innerwick, East Lothian
1879 TWEEDDALE, The Marquis of, K.T., Yester, Haddington
1899 Wallace, Forbes, Redcoll, Longniddry
1881 Wallace, John, Hailes, Haddington
1888 Watt, Miss Adelaide, of Spott, Dunbar
1902 Watt, David, jun., Caerlaverock, Tranent
1899 Watt, James Wm., New Mains, Drem
1898 Weddell, John, Snawdon, Gifford
1847†WEMYSS and MARCH, The Earl of, Gosford, Longniddry
1895 Wilson, David, Agricultural Engineer, East Linton
1888 Wilson, Peter, Rhodes, North Berwick
1899 Wilson, Robert, Sheriffside, Gifford
1902 Wood, James, Faussett Hill, Gullane
1893 Wylie, Robert, Heugh, North Berwick
1899 Wyllie, Wm. R., Tranent Mains, Tranent
1877 Young, D. S., Bonnington, North Berwick
1887 Young, James B., Elphinstone Tower, Tranent
1869 Yule, Edward, Balgone, North Berwick

LINLITHGOW.

1899 Alexander, Thomas, Nethermuir, Bathgate
1874 Allan, J., Viewforth, Bo'ness
1898 Allan, Robert, Polkemmet, Whitburn—*Free Life Member*
1902 Allan, Robert, Viewforth, Bo'ness
1895 Allison, David, Duddingston, South Queensferry
1906 Arkley, Robt., Kingsfield, Linlithgow
1903 Armour, Harry, Niddry Mains, Winchburgh
1888 Bartholomew, John, Duntarvie, Winchburgh
1906 Bartie, Thomas, Dundas Castle, South Queensferry
1906 Beaumont, John, Mannelhaugh, Linlithgow
1899 Borthwick, James, V.S., Kirkliston
1902 Brash, James, Hallyards, Kirkliston
1906 Brock, Sydney, Overton, Kirkliston
1905 Brown, Robert, Waukmilton, Linlithgow
1875 Brownlee, James, East Whitburn Farm
1899 Brownlie, James, Merchant, Fauldhouse
1867 Burton, J. Tait, Scotstoun, South Queensferry
1895 Cadell, Henry M., of Grange, Grange House, Bo'ness
1900 Cadzow, James, Kilpunt, Broxburn
1899 Cæsar, William, Solicitor, Bathgate

Admitted
1904 Campbell, Wm. Jas., Estates Office, Dalmeny Park, Edinburgh
1900 Clark, John Stewart, of Dundas, Dreghorn Castle, Colinton
1904 Cochrane, Arch., Trinlaymire, Linlithgow
1882 Crawford, Alex., Bo'mains, Bo'ness
1899 Dalziel, Alex., Stonyburn, Fauldhouse
1881 Drysdale, And. L., The Leuchold, Dalmeny Park, Edinburgh
1870 Dudgeon, Alex., Humbie, Kirkliston
1869 Dudgeon, George, Almondhill, Kirkliston
1887 Dudgeon, Jn. G., Easter Dalmeny, Dalmeny
1889 Ferrier, Wm. C., Birkenshaw, Bathgate
1902 Fleming, James, Haugh, Kirkliston
1905 Fraser, Thos., Millrig Farm, Kirkliston
1905 Frew, John, Sanitary Inspector, Bathgate
1906 Galbraith, Alex., Upper Kinneil, Linlithgow
1907 Gifford, Adam, West Briggs, Kirkliston
1901 Gifford, Thomas, West Briggs, Kirkliston
1869 Glendinning, Alex., New Mains, Kirkliston
1902 Graham, George W., Wheatlands, Kirkliston
1906 Hamilton, John, Springfield, Linlithgow
1860 Hog, Thomas A., of Newliston, Kirkliston
1887 Hope, Capt. Thos., of Bridge Castle, Westfield, Linlithgowshire
1906 Howat, James, Burghmuir, Linlithgow
1906 Johnstone, Jas., Windyknowe, Bathgate
1884†LINLITHGOW, The Marquis of, K.T., Hopetoun House, South Queensferry
1889 Macaulay, Jas. F., Kinneil Estate Office, Bo'ness
1888 MacNab, John, Glenmavis, Bathgate
1900 Marshall, Wm., Barbauchlaw, Armadale
1879 Masson, Rev. Alex., The Manse, Kirkliston
1906 Milne, James, Home Farm, Dundas, South Queensferry
1877 Mitchell, George, Broxburn Park, Broxburn
1859 Morrison, J., West Dalmeny, Dalmeny
1807 Newlands, Alex., Implement Maker, Linlithgow
1888 Nimmo, Thos., Kirklands, Winchburgh
1899 Nisbet, Gavin, Inch, Bathgate
1893 Paul, James, Walton, Linlithgow
1896 Ralston, A. Agnew, Philpstoun House, Philpstoun
1904 Robertson, Robert, Little Ochiltree, Uphall
1868†ROSEBERY, The Earl of, K.G., Dalmeny Park, Edinburgh
1889 Rough, Robert L. (R. Rough & Sons), Broxburn
1903 Sinclair, George, Home Farm, Dalmeny Park, Edinburgh
1906 Smith, Robt., Westfield, Winchburgh
1906 Somerville, Robert, Seafield, Bathgate
1864 Steuart, Captain R., of Westwood, West Calder
1892 Thomson, Seton Murray, Preston House, Linlithgow
1888 Tod, Wm., Pardovan, Philpstoun
1907 Wilson, William, jun., Boghall, Linlithgow
1905 Wolfe, George, Millburn, Bathgate

5.—ABERDEEN DISTRICT.

EMBRACING THE

COUNTIES OF ABERDEEN, BANFF, FORFAR (EASTERN DIVISION), AND KINCARDINE.

ABERDEEN.

Admitted
1868*†ABERDEEN, The Earl of, K.T., Haddo House, Aberdeen
1885 Abernethy, David W., Ferryhill Foundry, Aberdeen
1875 Ainslie, William, Pitfour Estates Office, Mintlaw Station
1894 Aitchison, Walter, Coniecleuch, Huntly
1876 Alexander, George, South Balnoon, Huntly
1901 Alexander, George, Wrae, Turriff
1901 Allan, James R., Ashgrove Engineering Works, Aberdeen
1889 Allan, John, Aikenshill, Cultercullen, Aberdeen
1901 Allan, Richard S., Ashgrove Engineering Works, Aberdeen
1897 Anderson, A. B., Lothian House, Turriff
1894 Anderson, Geo., Nether Aucharnie, Forgue, Huntly
1885 Anderson, George, West Fingask, Old Meldrum
1902 Anderson, George Alexander, Comisty, Forgue, Huntly
1876 Anderson, John M., Den o' Howie, Mintlaw
1881 Anderson, Robert, Wester Coull, Tarland
1902 Anderson, Robert, Aucharnie, Forgue, Huntly
1907 Anderson, Wm., Home Farm, Hopewell, Tarland
1894 Anderson, William, Saphock, Old Meldrum
1876 Anderson, William, Manse, Lynturk, Alford, Aberdeen
1876 Anderson, William, Wardes, Kintore
1906 Argo, James, Crannabog, Rothienorman
1882 Argo, James, Denend, Udny, Aberdeen
1902 Armstrong, John, Whitehills, Cairnie, Huntly
1903 Arnott, John, The Square, Huntly
1893 Ballingall, Robert Rennie, Crimmonmogate, Lonmay
1862 Barclay, J. W., 60 Dee Street, Aberdeen
1900 Barclay-Harvey, Jas. Chas., of Kinord, Dinnet
1902 Barrie, James, Home Farm, Balmedie, Aberdeen
1884 Barron, Geo. F., Thomastown, Auchterless
1903 Baxter, William, Banker, Old Meldrum
1885 Bean, James, Mains of Dumbreck, Udny
1882 Beaton, James, Arpen Bank, Turriff
1907 Beattie, Alex., 154 Midstocket Road, Aberdeen
1902 Beddie, Alex., Ardziel, Strichen
1906 Beddie, James, Banks, Strichen

Admitted
1906 Beddie, L. B., Saltoun Place, Fraserburgh
1904 Bell, Andrew, Litterty, Turriff
1902 Bell, John, Auction Mart, Fraserburgh
1888 Bennet, L., 27 Wallfield Crescent, Aberdeen
1894 Bennet, Wm., Little Forgue, Forgue
1901 Berry, Peter, Guise, Whitehouse, Aberdeenshire
1894 Black, Wm., Kinermie, Dunecht, Aberdeen
1903 Booth, James, of Downiehills, Peterhead
1893 Booth, Matthew, Darrahill, Foveran
1884 Bothwell, Wm., Berryhill, Bridge of Don, Aberdeen
1895 Brand, Robert, Ardiffery, Cruden, Ellon
1895 Brown, Alexander G., Whitehill House, Fraserburgh
1902 Brown, James, Braco, Strichen
1899 Brown, James, Crosstone, Ellon
1884 Brown, John, Craigie Cottage, Hardgate, Aberdeen
1894 Brown, Robert, Maryville, Stocket, Aberdeen
1902 Brown, Robt. J., Overhill, Belhelvie
1868 Bruce, George, Heathfield, Inverurie
1876 Bruce, James, Collithie, Gartly
1876 Bruce, Peter, Myreton, Insch, Aberdeen
1901 Bruce, Robert, Heatherwick, Inverurie
1894 BURNETT, Sir Thomas, of Leys, Bart., Crathes Castle, Aberdeen
1875 Burr, Alexander, Tulloford, Old Meldrum
1900 Calder, Andrew, Cairnton, Lumphanan
1901 Callander, William, Jericho, Insch, Aberdeenshire
1901 Campbell, George, Harthill, Whitehouse, Aberdeenshire
1876 Campbell, Silvester, Kinellar, Aberdeen
1895 Cantlay, John, Ashallow, Cruden
1900 Cantlay, William G., Glasgoego, Kinellar, Aberdeen
1894 Cardno, Andrew P., Bogenlea, Monquhitter, Turriff
1894 CATHCART, Sir Reginald A. E., Bart., Cluny Castle, Aberdeen
1907 Catto, James A., Northern Agricultural Co., Ltd., Aberdeen
1898 Chalmers, James, Auchrynie, Strichen
1894 Chalmers, John Lovie, Wester Cardno, Fraserburgh
1864 Chalmers, Wm., Summerhill, New Machar, Aberdeen
1880 Chaplin, G. Robertson, Crimmonmogate Estates Office, Lonmay
1899 Chapman, Archibald, of Slackadale, Turriff
1894 Chapman, Wm., Woodhead, Aberdour, Fraserburgh

Admitted
1878 Charles, John, Town and County Bank (Limited), Inverurie
1894 Charles, Wm., Gammons, Rothienorman
1894 Chessor, James, Craigiebanks, Fraserburgh
1902 Cheyne, Alex., Inchgreen, New Deer
1869 CLARK, Sir John F., of Tillypronie, Bart., Tarland
1878 Clarke, William, Hopewell, Tarland
1903 Cobban, James, Estate Office, Haddo House, Aberdeen
1903 Cocker, John, Hill of Petty, Fyvie
1899 Cocker, William, 130 Union Street, Aberdeen
1886 Collie, Wm., Priestwells, Insch
1871 Cook, Charles, Carden House, Aberdeen
1901 Cook, James M., Waterside of Forbes, Alford, N.B.
1894 Cook, Thomas Nicol, Waterside, Newburgh, Aberdeen
1894 Cooper, John A., Dunnydeer, Insch
1876 Copland, Alexander, 78 Dee Street, Aberdeen
1891 Copland, Robert, Milton, Ardlethen, Ellon
1894 Couper, J. C. Ogston, of Craigiebuckler, Aberdeen
1902 Cowie, James, Haremoss, Monquhitter, Turriff
1887 Crabb, Dd., New Aberdour, Fraserburgh
1902 Craig, Alex., 53 Schoolhill, Aberdeen
1878 Cran, George, Old Morlich, Inverkindie
1902 Cran, William, Gerrie, Huntly
1902 Crombie, Alex., Woodend, New Machar
1902 Cruickshank, Alex., Bon-Accord Hotel, Market Street, Aberdeen
1902 Cruickshank, George Leslie, Fyvie
1876 Cruickshank, J., Ladysford, Fraserburgh
1906 Cruickshank, John W., Logienewton, Rothienorman
1894 Cruickshank, Robert, Claymires, Turriff
1886 Darling, D. C., 2 Hosefield Avenue, Aberdeen
1895 Davidson, Adam, Boghead of Denlugas, Turriff
1896 Davidson, Capt. D. F., of Dess, Aberdeenshire
1894 Davidson, James, of Holmwood, Aberdeen
1894 Davidson, James, Newton, Cairnie, Huntly
1906 Davidson, William, Burnside House, Turriff
1902 Davidson, William, Road Surveyor, Ellon
1905 Davie, W. A., M.A., B.Sc., Marischal College, Aberdeen
1894 Dawson, Geo., The Manor Farm, Memsie, Fraserburgh
1886 Dawson, W. F. G., North of Scotland Bank, Insch
1896 Diack, James, Pittodrie, Pitcaple
1900 Douglas, John R., District Road Surveyor, Turriff
1884 Duff, G. A., of Hatton, Turriff
1894 Duff, James Murray, 314 Great Western Road, Aberdeen
1858 Duguid-M'Combie, P., of Easter Skene, Aberdeen
1894 Dunbar, A. Duff, V.S., 20 Belmont St., Aberdeen
1902 Dunbar, John C. F., 8 Golden Square, Aberdeen
1886 Duncan, Alexander, 602 Holburn Street, Aberdeen
1903 Duncan, James, Urieside, Inverurie
1877 Duncan, John, Fortrie, King Edward

Admitted
1901 Duncan, John William, 477 King Street, Aberdeen
1877 Duncan, Patrick, Balchers, King Edward
1906 Duncan, Robt., Salesman, King Street, Aberdeen
1894 Durno, James, Easter Town, Old Meldrum
1879 Durno, James, Jackston, Rothienorman
1894 Durno, James, Westertoun, Warthill
1885 Durno, Leslie, Mains of Glack, Old Meldrum
1891 Durward, Robert, Blelack, Coldstone, Dinnet
1868 Duthie, William, Banker, Tarves
1894 Edmond, John, of Kingswell, Advocate, 16 Bridge Street, Aberdeen
1902 Ellis, James A., Mains, Cairncoullie, Cushnie, Alford
1902 Ellis, William D., Kinclune, Towie, Glenkindie
1901 Elmslie, William, Crookmore, Alford, N.B.
1900 Esslemont, George B., King's Acre, Kingsgate, Aberdeen
1902 Farquhar, Charles, Skelmanae, Strichen
1895 Farquhar, James, Old Echt, Aberdeen
1906 Farquharson, Major James, of Corrachree, Tarland
1865 Farquharson, John, 37 Westburn Road, Aberdeen
1901 Farquharson, W. S., of Whitehouse, Aberdeen
1872 Ferguson, Lieut.-Col. George A., of Pitfour, Mintlaw
1893 Ferguson, James, of Kinmundy, Mintlaw (10 Wemyss Place, Edin.)
1868 Ferguson, Thomas, 7 Westfield Terrace, Aberdeen
1894 Fiddes, Alex. Harvey, Meikle Haddo, Foveran
1902 Finch, Cuthbert W., Wellhouse, Alford, N.B.
1904 Florence, Alexander, Knowley, Rayne, Wartle
1872 FORBES, Right Hon. Lord, Castle Forbes, Keig
1901 Forbes, Harry, Greystone, Tullynessle, Alford, N.B.
1906 Forbes, Ivan Courtney, Brux Lodge, Forbes, Alford, N.B.
1893 Forbes, J. C. Ogilvie, of Boyndlie, Fraserburgh
1874 Forbes, James, Tombreck, Glenbucket
1902 Forbes, John Walter, of Corse, Lumphanan
1885 Forbes, William, Ruthven, Dinnet
1903 Forbes, William, Muirton of Barra, Old Meldrum
1907 Forbes, Capt. The Hon. W. R. D., Byth House, Turriff
1900 Forrest, James, Whitesones, New Deer
1885 Fowlie, James, Bruckhill, New Deer
1872 France, C. S., 7 Belmont Place, Aberdeen
1885 Fraser, George, Hill of Skillmafilly, New Deer
1903 Fraser, Thomas, Terneystrype, Turriff
1874 Garden, Robert, Mains of Tolquhon, Tarves
1891 Gammell, Sydney J., Countesswells House, Bieldside, Aberdeen
1894 Garland, Thomas, jun., Ardlethen, Ellon
1882 Garvie, R. G., Bon-Accord Lane, Aberdeen
1903 Gellie, James, Gorrachie, King Edward
1902 Gilbert, Francis, Norham, Corse, Coull, Lumphanan
1902 Glen, William, Clerkhill, Peterhead

Admitted
1904 Godsman, David M., Mains of Fedderate, Brucklay
1876 Gordon, A. M., of Newton, Insch—*Honorary Secretary of the Society*
1903 Gordon, Alex. Theodore, yr. of Newton, Insch
1894 Gordon, Charles T., of Cairness, 13 Learmonth Gardens, Edinburgh
1907 Gordon, Major-General C. G., Culdrain, Gartly
1876 Gordon, Henry, of Manar, Inverurie
1886 Gordon, Henry G. Fellowes, of Knockespock, Clatt
1905 Gordon, Reginald Hugh Lyall of Abergeldie (15 Belmont Park, Lee, Kent)
1876 Gordon, William, Auchallater, Braemar
1894 Gordon, Wm. Fowlie, Broomhills, Pitsligo
1889 GRANT, Sir Arthur, of Monymusk, Bart.
1876 Grant, John, Banker, Methlick
1895 Grant, P. A. H., of Drumminor, Rhynie
1904 Grant, Robert, Pitfichie, Monymusk
1894 Grant, William, Faichill, Gartly
1903 Grassick, W. H., Daviot Branch Asylum, Pitcaple
1903 Gray, Alex. (J. & W. Henderson), Aberdeen
1902 Gray, John, Ardlaw Mains, Fraserburgh
1894 Gray, William, Balgove, Old Meldrum
1894 Gray, William, Keilyford, Old Meldrum
1894 Gray, Wm., Mains of Shedocksley, Old Skene Road, Aberdeen
1902 Gregor, James, Invercauld Arms Hotel, Braemar
1903 Greig, Dr C., Fyvie
1892 Greig, R. B., Marischal College, Aberdeen—*Free Life Member*
1876 Hall, Alex. H., 8 Braemar Place, Aberdeen
1897 Harper, Robert J., Mellinside, Insch
1894 Harvey, Alex., Hunter, Fiddesbeg, Foveran, Aberdeenshire
1885 Hay, Alexander (Ben. Reid & Co.), Guild Street, Aberdeen
1902 Hay, John Rae, Little Ythsie, Tarves
1900 Hendrick, James, B.Sc., F.I.C., Marischal College, Aberdeen—*Chemist to the Society*
1902 Hendry, A. M., Affleck, Huntly
1905 Hendry, George, County Buildings, Aberdeen
1893 Hendry, Peter, Hillockhead, Huntly
1901 Hendry, William C., 154 Union Street, Aberdeen
1903 Henry, James, Kinaldie, Logie Coldstone, Dinnet
1906 Hill, F. Godfrey, Little Haddo, Newburgh, Aberdeen
1901 Howie, George, M.R.C.V.S., Alford, N.B.
1892 Huggan, John A., 35 Market St., Aberdeen
1884 Hunter, Charles, Upper Mills of Drum, Crathes
1903 Hunter, Stephen, Northern Agricultural Co., Aberdeen
1872†HUNTLY, The Marquis of, Aboyne Castle, Aboyne
1884 Hutcheon, Alex., Nether Ordley, Auchterless, Turriff
1899 Hutcheon, George, Skeen House, Turriff
1905 Hutcheon, John, yst., Ordley, Auchterless, Turriff
1887 Hutcheon, John, of Upperton, Gask House, Turriff
1890 Innes, Lt.-Colonel Francis Newel, R.N., R.A., yr. of Learney, Torphins
1846 Innes, Col. Thomas, of Learney, Aberdeen

Admitted
1901 Ironside, George, Lethenty, Tullynessle, N.B.
1905 Irvine, A. F., of Drum, Drumoak
1876 Jaffray, James, 10 Margaret Street,
1898 Johnston, Alex., V.S., Gordonstown, Rothienorman
1894 Johnston, John, Prioryhill, Peterculter
1894 Keith, Alexander, Kinnermit, Turriff
1894 Keith, Alex., Spreader Hill, Lonmay
1901 Keith, M. J., Aberdour House, New Aberdour
1902 Kemp, Charles, Auchincrieve, Rothiemay
1907 Kemp, William, Aldie, Port Erroll, Cruden
1876 Kilgour, Robert, Ardlin, Ellon
1876†KINTORE, Earl of, Keith Hall, Inverurie
1885 Law, John, Lochend, Old Meldrum
1876 Ledingham, A., Balnoon Cottage, Forgue, Huntly
1889 Ledingham, J. K., North Plaidy, Turriff—*Free Life Member*
1896 Leith, Capt. Alex., of Glenkindie, Aberdeenshire
1890 LEITH, of Fyvie, Lord, Fyvie Castle, Fyvie
1869 Leith, Major Thomas, Petmathen, Oyne
1900 Leith-Hay, Chas. E. N., of Leith Hall, Kennethmont
1885 Leslie, David, Lochhills, New Machar
1905 Leslie, R. W. H. Crawford, of Rothienorman
1884 Leys, James, Asloun, Alford
1892 Littlejohn, Geo., Wellhouse, Alford, N.B.
1876 Littlejohn, Wm., 112 Clifton Road, Aberdeen
1906 Lobban, Wm., Loanhead, Drumblade, Huntly
1857 Lovie, Alex., Nether Boyndlie, Fraserburgh
1906 Lumsden, E. F., Balmedie, Aberdeen
1869 Lumsden, Henry, of Pitcaple, Pitcaple
1877 Lumsden, H. G., of Auchindoir, Aberdeen
1902 Lumsden, Hugh P., The Clova Home Farm, Lumsden
1894 Lyon, Alex., 278 George Street, Aberdeen
1903 Lyon, William, Haughton Arms Hotel, Alford, N.B.
1894 Macdonald, Jas., Bridgend, Mossat, Kildrummy, Aberdeen
1903 Macdonald, L., Fife Arms Hotel, Braemar
1902 Macdonald, Ranald R., Cluny Estates Office, Aberdeen
1902 M'Donald, Wm. Yeats, of Aquharney, Hatton
1902 M'Farlane, Alex., V.S., Insch, Aberdeenshire
1903 M'Hardy, Jas. R., Brucktor, Inverurie
1902 Machray, John, Drimmies, Pitcaple
1883 Mackenzie, Wm., 60 Hamilton Place, Aberdeen
1899 Mackintosh, James, Estates Office, Clova, Lumsden
1894 M'Laggan, Jas., Bank Agent, Torphins
1887 M'Lean, Neil, of Breda, Alford, N.B.
1902 M'Leod, Alex., Upper Cook, Fishrie, Turriff
1902 M'Pherson, Jas. S., M.A., Schoolhouse, Ythan Wells, Insch
1883 M'Robbie, Alex., Sunnyside, Aberdeen
1904 M'Robert, A. T., Aberdeen Lime Co., Aberdeen
1887 Maitland, Harry Reid, Little Methlick, Methlick—*Free Life Member*
1894 Maitland, Robert Cruickshank, Balhalgardy, Inverurie

Admitted
1902 Maitland, William, Lime Co , Aberdeen
1902 Maitland, Wm , Pitdulsie, Auchterless Turriff
1876 Marr, John, Upper Mill, Tarves
1894 Marshall, Provost Alexander, Townhead, Kintore
1894 Mearns, Daniel, Quayside, Aberdeen
1875 Mearns, Rev Duncan G , of Dishblair, Aberdeenshire
1892 Mennie, A M'G , Brawlandknowes, Gartly
1875 Merson, James, Craigwillie, Huntly
1893 Merson, John, Millhill, Gartly
1895 Michie, John, Balmoral, Ballater
1876 Middleton, Alex , Belmont, Aberdeen
1906 Miller, J P Sandilands, Chemical Works, Aberdeen
1895 Milligan, D M M , 245 Union Street, Aberdeen
1900 Milne, Alex , Pickerston, Fyvie
1904 Milne, Colonel George, Logie Elphinstone
1894 Milne, James, Pittendrum, Pitsligo, Fraserburgh
1903 Milne, John, Contractor, Braemar
1867 Milne, John, Inverurie—*Free Life Member*, 1873
1887 Milne, Robt , Coise of Kinnoir, Huntly
1868 Mitchell, William A , Auchnagathel, Keig
1886 Moir, Alexander, Rowan Bank, Woodside, Aberdeen
1903 Moir, George, Foiglen Mains Turriff
1902 Moir Byres, George, Tonley, Whitehouse, Aberdeenshire
1898 Morrison, Alex , 25 Market Street, Aberdeen
1894 Morrison, Alex Smith, Stonebriggs, Pitsligo, Fraserburgh
1885 Morrison, Andrew, Upper Cotburn, Turriff
1902 Morrison, James, 62 Cadden Place, Aberdeen
1901 Mortimer, William, Old Keig, Whitehouse, Aberdeenshire
1894 Mowat, John, Craigmaud, by New Pitsligo
1894 Murdoch, John, Belnaboth Glenbucket, Aberdeenshire
1902 Murison, Wm , County Clerk, Aberdeen
1902 Murray, James G , Brendless, Turriff
1894 Mutch, James G , Drumgair, Cults, Aberdeen
1872 Nares, A F , Parkhill, Aberdeen
1902 Nicol, Randall Jas , yr of Ballogie, Aboyne
1869 Nicol, W E , of Ballogie, Aboyne
1882 Norrie, Wm , Cairnhill, Monquhitter, Turriff—*Free Life Member*
1894 Ogg, Charles, Baltimore, Glenbucket
1882 Ogston, Alex M , of Ardoe, Aberdeen
1894 Park, Wm , Woodhead, Cairness, Lonmay, Fraserburgh
1901 Paterson, James, Newbigging, Whitehouse, Aberdeen
1894 Paterson, James, Provost Jameson s Quay, Aberdeen
1902 Penny, Joseph, Ardlaw Villa, Longside
1901 Petrie, Charles, Westhall Cottage, Oyne
1894 Philip, John, Bellevue, Dyce, Aberdeen
1894 Philip, William, Boynds, Inverurie
1895 Pirie, Arthur, Cartlehaugh, Mintlaw Station
1895 Pirie, A C , Dunecht, Aberdeenshire
1902 Pirie, George, Bank Agent, Ellon
1859 Pittendrigh, A , Mains of Park, Lonmay
1894 Porter, A , Gillahill, Countesswells, Aberdeen
1902 Proctor, William, Invercauld Arms Hotel, Ballater

Admitted
1905 Profeit, W J , M A , B Sc , Marischal College, Aberdeen
1882 Rae, John, Corn Merchant, Ellon
1882 Rae, Wm , Advocate, Aberdeen
1894 Ramsay, William, jun ,
1903 Reid, Alfred H , Hillhead, Ellon, Aberdeen
1902 Reid, Chas , Gateside, Strachan, Banchory
1891 Reid, David, Crofts of Glenmuick, Ballater
1902 Reid, James, Hayfield, Peterhead
1877 Reid, Dr James, Templeton, Mossat
1884 Reid, John, Balquharn, Alford, N B
1894 Reid, John Low, Cromlybank, Ellon, Aberdeenshire
1902 Reid, Robt , Belhelvie, Old Meldrum
1885 Reid, Wm , 8 Hadden Street, Aberdeen
1902 Ritchie, John Neish Schoolhill, Turriff
1902 Ritchie, William, Balcairn, Old Meldrum
1901 Robertson, Alexander, Kinbog, Fraserburgh
1876 Robertson, Duncan, Sheriff of Aberdeen
1901 Robertson, John, Kirkland, Forgue, Huntly
1885 Robson, Alex (W Smith & Sons), Aberdeen
1858 Ross, H , care of the Secretary, Mutual Improvement Association, Tarland
1893 Ross, R R , Balmoral Buildings, 67 71 Green, Aberdeen
1871 Ross, Wm , Annesley, Torphins
1885 Runciman, James, Castleton, King Edward
1885 Runciman, John, Auchmull, King Edward
1894 Russell, Major General F S , C M G , of Aden, M P , Mintlaw
1886†SALTOUN, Right Hon Lord, Philorth House, Fraserburgh
1901 Sangster, John, Manager, Aberdeen Commercial Co , Aberdeen
1894 Scott, Jas , Bruxie, New Maud, Aberdeenshire
1906 Scott, John, Bruntstane, Huntly
1894 Scott, John, Factor and Banker, New Pitsligo
1881 Scott, Ronald, 58 Fountainhall Road, Aberdeen
1885 Sellar, R H N , Implement Maker, Huntly
1894 Sharp, Jas Smith, Burryhillock, Premnay
1894 Shearer, Eric Jas , Maybank Works, Turriff
1896 Shepherd, William, Bellestraid, Logie-Coldstone, Dinnet
1902 Sherriffs, Kenneth, jun , Grain Merchant, Aberdeen
1902 Sim, Alex , Home Farm, Muirton, Belhelvie
1900 Sim, George F , Lochend, Ardoe, Aberdeen
1898 Sim, James, Ness Bank, West Cults, Aberdeen—*Free Life Member*
1902 Sim, William, Jessiefield Countesswells
1902 Simmers, Francis, Whiteside, Tullynessle, Alford, N B
1906 Simpson Alex , Broadland, Cairnie, Huntly
1894 Simpson, George, Fernhill, Aberdeen
1902 Simpson, James, Drumdelgie, Cairnie, Huntly
1885 Simpson, John, Implement Maker, Peterhead
1895 Sivewright Adam, M R C V S , Tarland
1889 Skirving, Robert, of Cobairdy, Huntly
1858 Sleigh, John, Strichen Mains, Strichen

Admitted
1896 Sleigh, John P., St John's Wells, Fyvie
1902 Smith, Andrew, Invercauld Estate Office, Ballater
1902 Smith, Charles, Inchcorsie, Rothiemay
1895 Smith, C. G., The Mains, Haddo House, Aberdeen
1894 Smith, Duncan M., 27 Argyll Place. Aberdeen
1894 Smith, George, Kilreen, 23 King's Gate, Aberdeen
1906 Smith, George, of Pittodrie, Pitcaple
1885 Smith, James, Burnshangie, Strichen
1894 Smith, Robert, Boggieshalloch, Turriff
1895 Smith, William, 59 Rosemount Viaduct, Aberdeen
1894 Smith, W. J. Woodman, 20 King Street, Aberdeen
1903 Smythe, George H., Balcarres Hotel, Echt
1902 Spark, Wm. A., Glenbucket, Bridge o Bucket
1902 Stephen, Robert, Largue, Forgue, Huntly
1896 Stewart, Alexander G., Ballaterach, Dinnet
1889 STEWART, Sir David, of Banchory, Banchory House, Aberdeen
1902 Stewart, James G., Aldivalloch, Huntly
1885 Still, Geo., Strathray, Kinnellar, Blackburn, Aberdeen
1894 Stoddart, Geo., Aryburn, Dyce
1893 Stodart, George, 52 Gladstone Place, Aberdeen
1883 Strachan, Alexander, Wester Fowlis, Alford
1878 Strachan, Charles, Tillyorn, Tarland
1894 Strachan, Patrick, Eastown, Tarland
1894 Strachan, William, Upper Muirden, Turriff
1885 Stuart, E. R. Burnett, of Dens Crichie, Mintlaw
1894 Stuart, William, Earlsfield, Kennethmont
1876 Tait, John, Crichie, Inverurie
1896 Taylor, Alex., Kildrummy, Mossat
1902 Thom, Jas. C., Quithel, Crathes, Aberdeen
1896 Thomson, Peter, Kirkhill House, Turriff
1875 Thomson, Wm., Banker, Tarland
1902 Thurburn, Edward A., of Mayen, Rothiemay
1898 Turner, John, Kinharrachie, Ellon
1873 Udny, J. H. F., of Udny and Dudwick, Aberdeen
1876 Urquhart, Colonel F. P., of Craigston, Turriff
1884 Walker, David, Coullie, Udny
1902 Walker, George, jun., Tillygreig, Udny
1893 Walker, Roderick, Meiklefolla, Rothienorman
1905 Watson, George, Old Craig, Meikle Wartle, Aberdeenshire
1894 Watson, Wm., Middlemuir, Aberdour, Strichen
1889 Watt, John, Newton of Mounie, Daviot, Old Meldrum
1894 Webster, James C., Millmoss, Turriff, N.B.
1893 Webster, William, Towie Barclay, Auchterless, Aberdeen
1873 Wilken, George, Congeast, Inverurie
1902 Williamson, David D., Auldtown of Carnousie, Forglen, Turriff
1902 Wilson, Rev. Alex., M.A., The Manse, Ythan Wells, Insch
1895 Wilson, Alex. S., 123½ Union Street, Aberdeen
1894 Wilson, C. F., Old Ford Road, Aberdeen
1894 Wilson, Geo., Badentyre, Turriff

Admitted
1865 Wilson, John, Castle Park, Huntly
1904 Wilson, R., Newton, Methlick
1895 Wilson, Robt. M., M.D., Tarty, Ellon
1885 Wilson, Wm., Coynachie, Gartly
1902 Wisely, William, 31 Virginia Street, Aberdeen
1901 Young, George, Greenhall, Insch, Aberdeenshire
1903 Young, John M'Lauchlan, F.R.C.V.S., F.R.S.E., Marischal College, Aberdeen

BANFF.

1902 Alexander, E. W., Newton of Clunie, Marnoch
1893 Allan, George M., of Montbletton, Banff
1900 Anderson, William, M.R.C.V.S., Keith
1893 Barclay, Geo., Strocherie, King Edward, Banff
1893 Beaton, L., The Farm, Cullen House, Cullen
1899 Bisset, Colin, Home Farm, West Elchies, Aberlour
1893 Bisset, James, of Paddocklaw, Kilnshade, Macduff
1874 Bruce, G., Tochineal, Cullen
1894 Cameron, Geo., Bogbain, Keith, N.B.
1875†Campbell, James, LL.D., Cullen House, Cullen
1894 Craigie, William, Pennan Farm, Banff
1883 Cran, John, Butcher, Keith
1902 Cruickshank, Captain A., Afforsk, Gamrie, Banff
1898 Cruickshank, William, North Sandlaw, Alvah, Banff
1889 Cumming, J. F., Cardow, Craigellachie
1902 Davidson, Andrew, Mains of Balmand, King Edward
1893 Donald, George, of Ladyhill, Grange, Keith
1880 Duff, Thomas Gordon, of Drummuir, Keith
1868 Duncan, R., Auchenbaidie Mains, Banff
1904 Edgar, Alex., Hotel, Craigellachie
1899 Farquharson, R. G., Bogarrow, Glenlivet
1884 FIFE, The Duke of, K.T., Duff House, Banff
1903 Findlay, Robert, Itlaw, Alvah, Banff
1902 Forbes, Alexander, Rettie, Boyndie, Banff
1893 Fortune, John, Broom, Portsoy
1894 Fowler, David, Ladysbridge Asylum, Banff
1902 Garden, Francis Alexander, of Troup, Banff
1895 Gill, George, of Bloodymire, Macduff
1902 Gordon, James, Craignetherty, Marnoch
1886 Graham, William, Brewer, Banff
1893 Grant, George, Glenfarclas, Ballindalloch
1876 Grant, G. S., Auchorachan, Glenlivet, Ballindalloch
1903 Grant, James, 25 Castle Street, Banff
1900 Grant, James, Arradoul, Buckie
1902 Grant, James, Glenconglass, Tomintoul, Ballindalloch
1902 Grant, John A., Pitglassie, Dufftown
1902 Grant, Dr Robt. R. W., Ruthven, Kirkmichael, Ballindalloch
874 Green, Robert, Ruthrie, Aberlour
899 Greig, John, South Sandlaw, Alvah, Banff
[illegible] Gunn, Alexander J., Kilnhillock, Cullen
902 Hendry, Charles, Auldtown of Netherdale, Aberchirder
907 Henry, James, Brae, Cornhill, Banffshire
900 Hutcheon, John, Dounepark, Banff

Admitted
1876 Inkson, Thomas F., Kinermony, Craigellachie
1881 INNES, Sir J., of Balveny and Edingight, Bart., Keith
1903 Kynoch, John, W. Isla Bank, Keith
1902 Landale, Napier, Aberlour, Banffshire
1896 Law, Charles E., Holl Farm, Keith
1902 Leask, D. B., Banker, Aberchirder
1894 Livingstone, William, Newton of Mountblairy, Banff
1885 Longmore, Leith E., Baldavie, Banff
1897 LUMSDEN, General Sir Peter, G.C.B., of Buchromb, Dufftown
1902 MacConachie, F. G., Ardoch, Deskford, Cullen
1883 M'Donald, Alexander (M'Donald Bros.), Portsoy
1900 Macdonald, John, Marypark, Ballindalloch
1896 Macduff, John, Maryhill, Auchlunkart, Keith
1901 M'Gilchrist, James, Home Farm, Ballindalloch
1891 MacIntosh, William, Fife Estates Office, Banff
1905 Mackay, George, Mains of Tannachy, Port Gordon
1902 Macpherson, James, Auchmillie, Portsoy
1876 Macpherson, J., Mulben, Keith
1858 Maitland, William, Muiryfold, Grange, Keith
1893 Marsden, Wm. James, V.S., Castle St., Banff
1902 Massie, James, Milltack, King Edward
1880 Menzies, W. G. Steuart, Aikenway, Craigellachie
1874 Miller, John, Seafield, Cullen
1905 Milne, Lewis, Mains of Findochty, Buckie
1893 Moggach, Joseph, Mains of Towiebeg, Botriphnie, Keith
1901 Moir, James, Drummuir, Keith
1898 Morison, Alex. O., Gavenwood, Banff
1885 Morison, James O., of Culvie, Aberchirder
1907 Morrison, A., Loanhead, Cornhill, R.S.O., Banff
1902 Morrison, James, Hillhead of Eden, Banff
1907 Morton, John, jun., Fisherton, Aberlour-on-Spey
1893 Murray, Alex., Old Manse, Boyndie,
1873 Ogilvie, A. M., Tillynaught, Portsoy
1873 Paterson, Wm., The Elms, Turriff
1869 Ramsay Alex., *Banffshire Journal* Office, Banff
1902 Reid, Alex., Marypark Bridge, Ballindalloch
1905 RICHMOND and GORDON, The Duke of, K.G., Gordon Castle, Fochabers
1895 Robertson, William, Grain Merchant, Banff
1902 Runciman, Frank S., Auchmill, King Edward
1898 SEAFIELD, Countess-Dowager of, Cullen House, Cullen
1896 Sharp, James D., Seafield Estates Office, Cullen
1897 Shearer, Joseph, Craigellachie
1902 Sim, John, Aberlour Mains, Aberlour
1883 Simpson, Alexander, Wardend, Banff
1902 Simpson, Alexander, Woodside, Portnockie
1876 Simpson, J. (Auchinachie & Simpson), Keith
1894 Simpson, Thos. A., Colleonard, Banff
1891 Simpson, Wm., Douglasbrae Manure Works, Keith

Admitted
1894 Skene, John, Montbletton Lodge, Banff
1903 Smith, Alexander, Wester Bogs, Enzie
1902 Smith, Alexander, North Burreldales, Alvah, Banff
1902 Smith, George, Hungryhills, Alvah, Banff
1898 Smith, George, Ordens, Banff
1901 Smith, George, Greenlaw, Alvah, Banff
1901 Smith, Gordon, Cragganmore, Ballindalloch
1901 Strachan, George, Montcoffer Mains, Banff
1894 Taylor, William L., Union Bank, Cullen
1894 Thomson, William, Tynet Mills, Port-Gordon
1883 Turner, Robert, Cairnton of Boyndie, Portsoy
1881 Walker, George, Milton Distillery, Keith
1898 Watson, William, Banff Foundry, Banff
1902 Wilson, George A., Haughs, Keith
1885 Wilson, James, Inchgower, Buckie
1902 Wilson, Robert, Bowiebank, King Edward

FORFAR

(EASTERN DIVISION).

1889 Adam, John, Bolshan, Arbroath
1893 Adamson, William S., Careston Castle, Brechin
1902 Adamson, Mrs Nora Jane, Careston Castle, Brechin
1893 Allison, Archibald, Dubton, Brechin
1884 Anderson, D., Woodhill, Carnoustie
1863 Anderson, Jas., Bridgend, Brechin
1890 Arnot, David, Mains of Edzell, Brechin
1896 Arnot, William, Fithie, Brechin
1876 Bean, George, West Ballochy, Montrose
1898 Bell, David Scott, Pert, Laurencekirk
1890 Bell, James, Gilchorn, Arbroath
1902 Blair, William, West Mathers, St Cyrus, Montrose
1905 Bowie, Robt. Colville (Mains of Kelly), Brookfield, Carnoustie
1896 Cameron, John, Westside, Brechin
1901 Campbell, Andrew, Farmers' Mart, Ltd., Brechin
1894 Campbell, Dr Archibald, Keenie, Edzell
1902 Campbell, Arch., Gleneffock, Lochlee, Forfarshire
1840 Campbell, Right Hon. J. A., of Stracathro, P.C., Brechin
1887 Campbell, Jas. Morton Peto, yr. of Stracathro, Brechin
1869 Carnegie, H. L., of Kinblethmont, Arbroath
1894 Carnegie, James, Arrat, Brechin
1887 Chalmers, P., Aldbar Castle, Brechin
1890 Collier, John W., Hatton, Carnoustie
1879 Colquhoun, Dug., Mains of Panmure, Carnoustie
1898 Coupar, Andrew, jun., West Kintrockat, Brechin
1855 Croll, John, Craigruach, Broughty Ferry
1891 Cruikshank, A. W., of Langley Park, 18 Amherst Road, Ealing, London, W.
1876 Dickson, Patrick, Sunnyside House, Montrose
1875 Duncan, A. R., Newmans Walls, Montrose
1898 Duncan, James Balfour, Brechin
1884 Fairweather, John, Chapletown, Brechin
1892 Falconer, James, Milton of Conon, Carmyllie, Arbroath
1894 Farquhar, Alexander, Careston, Brechin
1894 Ferguson, William, Ironmonger, Brechin

Admitted
1885 Finlayson, James, Balcathie, Arbroath
1890 Fleming, Alexander, Charleton, Montrose
1891 Fleming, James, Friock Mains, Friockheim
1901 Fletcher, Donald, Kinnaird, Brechin
1906 Francis, George A., West Seaton, Arbroath
1903 Fraser, Major J. W., Forebank House, Brechin
1895 Grant, Colin, Denfield, Arbroath
1901 Grant, George Roger, Auchnacree, Brechin
1902 Gray, Alex., Agricultural Co., Brechin
1876 Harper, F. V., Dunlappie, Edzell
1903 Henderson, Geo. Thomson, Templewood, Brechin
1894 Henderson, James, Kincraig, Brechin
1905 Henderson, Robert C., Kincraig, Brechin
1902 Howie, Thomas, Beechwood, Arbroath
1880 Hume, David, Barrelwell, Brechin
1896 Hynd, James, jun., Hodgeton, Inverkeillor, Arbroath
1906 Ireland, David, Easter Balmirmir, Arbroath
1894 Ireland, Thomas, Brewer, Brechin
1894 Jarron, James Alexander, Arbikie, Inverkeillor, Arbroath
1896 Johnstone, James D., Orange Lane, Montrose—*Free Life Member*
1894 Johnstone, John, Balnabreck, Brechin
1906 Kirkland, Thomas B., The Holles, Broughty Ferry
1890 Kydd, James, Scryne, Carnoustie
1902 Low, William, of Balmakewan, Marykirk, Montrose
1895 Lyall, Alexander, of Gardyne Castle, Montrose
1854 Lyall, David, of Gallery, Montrose
1881 M'Corquodale, D. A., Banker, Carnoustie
1869 M'Culloch, R. C., Myerton Villa, Carnoustie
1904 Macdonald, Reginald L., Windmill House, Arbroath
1904 Macdonald, W. K., Town Clerk, Arbroath
1894 M'Intosh, Thomas, Knowhead, Brechin
1897 M'Kinnon, James, Barnhill, Broughty Ferry
1902 M'Laren, James, Balgillo, Forfar
1905 M'Laren, John, jun., Balgillo, Forfar
1901 M'Laren, Laurence, M.R.C.V.S., Brechin
1905 M'Nab, John B., Keithock, Brechin
1887 MacNab, William, Keithock, Brechin
1900 M'Niven, Duncan, Willanyards, Brechin
1893 Middleton, George, Parkconon, Colliston, Arbroath
1889 Miller, James, Balgillo, Broughty Ferry
1894 Milne, Andrew C., Grange, Inverkeillor, Arbroath
1902 Milne, David, Auction Mart, Montrose
1894 Milne, George Gardyne, Montrose
1902 Milne, John, Farmer Mart, Brechin
1905 Milne, J. A., of Chapelton of Menmuir, Inchbrae, Brechin
1902 Milne, Wm. M., North Mains, Turin, Forfar
1879 Mitchell, James, Merchant, Montrose
1868 Morgan, D., Douglasleigh, Carnoustie
1905 Morgan, J. W., Grange of Conon, Arbroath
1905 Moyes, W. C., Cairndrum, Brechin
1894 Myles, John Blythe, of Balglassie, Brechin
1884 Nicoll, Wm., Hilton of Fearn, Brechin
1893 Nicoll, William, jun., Mains of Gallery, Montrose
1905 Officer, John, Windyedge, Brechin
1890 Ogilvie, James Swan, Brackenbrae, Broughty Ferry

Admitted
1890 Ouchterlony, Lt.-Col. T. H., The Guynd, Arbroath
1891 Pattullo, John, Hatton Mill, Friockheim
1900 Pattullo, J. H., Pitskelly, Carnoustie
1884 Petrie, David D., 12 Ann Street, Arbroath
1900 Reid, Wm. J., Fordhouse of Dun, Montrose
1882 Risk, James, Pittendreich, Brechin
1882 Robertson, James, Panmure, Carnoustie
1895 Robertson, John, Panmure Estates Office, Carnoustie
1884 Rodger, Geo., Waulkmills, Inverkeillor, Arbroath
1882 Rodger, Robt., Mains of Dun, Montrose
1906 Salmond, Charles S., Legaston, Arbroath
1895 Samson, Jas., Balmyllo, Montrose
1905 Scott, Alex., Huntlyhill, Brechin
1866 Scott, D. G. C., Maisondieu, Brechin
1883 Scott, Jas. Addison, Newton, of Arbirlot, Arbroath
1902 Semple, James, Old Downie, Carnoustie
1902 Semple, John L., Haughs of Kinnaird, Brechin
1904 Shiell, David Guthrie, Oatlea, Brechin
1885 Shiell, John, Solicitor, Brechin
1895 Sim, John, Brae of Pert, Brechin
1896 Smart, Arthur G., Dalbog, Edzell
1889 Smart, J. B., Woodside House, Carnoustie
1906 Smith, Alex., Findowrie, Brechin
1884 Soutar, D., Powis, Montrose
1900 Soutar, Jn. W., jun., Leachland, Brechin
1895 SOUTHESK, The Earl of, Kinnaird Castle, Brechin
1900 Spalding, William, of Balconnel, Brechin
1880 Stansfeld, Capt. John, Dunninald, Montrose
1902 Stephen, Edward F., Helenslea, Broughty Ferry
1895 Steven, William, Craigmill, Carnoustie
1904 Stewart, Donald, Chellwood, Monifieth
1900 Stewart, Gordon, East Mains, Keithock, Brechin
1894 Swan, William C., Inverpeffer, Carnoustie
1890 Taylor, Robt., Pitlivie, Carlogie House, Carnoustie
1891 Thom, James H., Westerton of Stracathro, Brechin
1906 Tindal, Robt. P. S., East Mains of Rossie, Montrose.
1896 Todd, James, Maison-Dieu, Brechin
1894 Watson, William, Boddin, Montrose
1896 Wilson, James A., Arnhall, Edzell
1874 Wood, Chris., Kintrockat House, Brechin
1899 Wood, Robert, Admiral Street, Carnoustie
1884 Young, George, Panlathie, Carnoustie

KINCARDINE.

1876 Adam, William, Bush, Banchory-Ternan
1901 Alexander, James, Bents, Laurencekirk
1902 Alexander, Robt., of Redmyre, Fordoun
1906 Anderson, David, Loirston, Nigg
1894 Annandale, A. B., Bank Agent, Stonehaven
1881 BAIRD, Sir Alex., of Urie, Bart., Stonehaven
1894 Baird, Henry Robt., of Durris, Aberdeen
1892 Barrie, James, Butcher, Stonehaven
1902 Barron, Robt., Mains of Mondynes, Fordoun
1902 Blackhall, T. H., Elsick House, Newtonhill, Stonehaven

Admitted	
1884	Braid, Thomas, Durris, Aberdeen
1893	Brown, George T., East Cairnbeg, Fordoun
1873	Brown, W., Pitnamoon, Laurencekirk
1899	Bruce, C. J., Auchenzeoch, Fordoun
1894	Calder, Jas., Midtown of Barras, Stonehaven
1894	Carr, Wm., East Mains of Barras, Stonehaven
1888	CLINTON, Lord, Fettercairn House, Fettercairn
1884	Cooper, John, Ley, Banchory-Ternan
1893	Cox, Charles T., Invery, Banchory, Kincardineshire
1899	Crichton, C. M., Kintore Estates Office, Laurencekirk
1864	Davidson, J., Harestone, Banchory
1882	Dewar, Alexander, Factor, Fasque, Fettercairn
1876	Dickson, Patrick, Laurencekirk
1896	Duff, Robert W., of Fetteresso, Stonehaven
1902	Duguid, John, Darnford, Durris
1906	Falconer, Wm. G., Cairnton, Fordoun
1902	Findlay, James, Craighead, Portlethen
1905	Forbes, Alex., Fetteresso Estates Office, Stonehaven
1907	Fortescue, Miss T. I., Kingcausie, Aberdeen
1902	Fraser, George, Kilnhill, Laurencekirk
1876	GLADSTONE, Sir J. R., of Fasque, Bart., Fettercairn
1869	Grant, Capt. Frederick G. Forsyth, of Ecclesgreig, Montrose
1873	Greig, James Booth, Laurencekirk
1884	Greig, William, Ashentilly, Durris, Aberdeen
1884	Hart, John, Cowie House, Stonehaven
1878	Hay, J. T., of Blackhall Castle, Banchory
1902	Heggie, J. G., The Burn Estate Office, Inch of Arnhall, Edzell
1902	Henderson, Alex., Burnside, Newhall, Muchalls
1902	Henry, William, Hatton, Marykirk
1896	Hird, Samuel, Sauchenshaw, Muchalls, Stonehaven
1884	Hunter, George, Kirktown of Banchory, Banchory-Ternan
1888	Innes, Rev. W. D., of Cowie, Stonehaven
1903	Ireland, Edwin, Ramsay Arms Hotel, Fettercairn
1902	King, Robert, Powburn, Fordoun
1873	Kinnear, Arthur W., Stonehaven
1876	Kinross, J., Coldstream, Laurencekirk
1901	Macdonald, J., Fettercairn, Laurencekirk
1896	M'Inroy, Col. Charles, C.B., of The Burn, Edzell
1900	Milne, Alex., Urie Estates Office, Stonehaven
1902	Milne, George, Mains of Barras, Kinniff, Stonehaven
1894	Milne, Jas., Balnagubs, Netherley, Muchalls
1894	Milne, James, jun., Easter Cairnhill, Fetteresso, Muchalls
1905	Milne, Robert, Inch of Arnhall, Edzell
1894	Murray, A. B., Auction Mart, Stonehaven
1902	Murray, Thomas A., West Mondynes, Fordoun
1900	Nicolson, Arthur B., of Glenbervie, Fordoun
1855	Paul, William, Stranathro Cottage, Muchalls
1885	Philip, Forbes, Road Surveyor, Ellon
1878	Porteous, D. S., of Lauriston, Montrose
1906	Preddy, Chas. A., Threipland, Drumlithie, Fordoun
1876	Reid, George, Pitdelphin, Strachan, Banchory
1900	Reid, James, Nether Tulloch, Laurencekirk
1889	ROBERTSON OF FORTEVIOT, Right Hon. Lord, Muchalls Castle, Stonehaven
1885	Ross, Alexander, Mains of Newhall, Fetteresso, Muchalls
1899	Scott, John, Albyn Cottage, Laurencekirk
1882	Shand, T. L. R., of Fawsyde, Bervie
1894	Shaw, Charles, Maidenfold, Maryculter, Aberdeen
1863	Sinclair, D., of North Loirston, Aberdeen
1876	Skeen, George, Burnside, Drumlithie
1873	Smith, James, Pittengardner, Fordoun
1898	Stewart, George, Haulkerton Mains, Laurencekirk
1857	Taylor, Robert, Drumfrenny, Banchory
1868	Thomson, James, Balbegno, Fettercairn
1863†	Walker, G. J., Mains, Portlethen, Aberdeen
1893	Walker, John Wilson, Hillside House, Portlethen, Aberdeen
1892	Walker, Robt. W., Portlethen, Aberdeen
1902	Walker, W. J. B., Nethermill House, Fettercairn
1896	Young, John, Easter Tilbouries, Maryculter

6.—DUMFRIES DISTRICT.

EMBRACING THE

COUNTIES OF DUMFRIES, KIRKCUDBRIGHT, AND WIGTOWN.

DUMFRIES.

Admitted
1895 Adamson, Robert, W.S., Irish Street, Dumfries
1879 Aitken, John M., Norwood, Lockerbie—*Free Life Member*
1873 Anderson, James, Stockbridge, Ecclefechan
1873 Anderson, John, Hillside, Moffat
1898 Anderson, Jonathan, Eaglesfield, Ecclefechan
1895 Anderson, Walter, Breckonside, Moffat
1904 Armstrong, James, Shaw, of Tundergarth, Lockerbie
1904 Annandale, Wm. Edwin, Hopsrigg, Langholm
1906 Armstrong, Walter John, Park, Annan
1907 Armstrong, W., Green, Annan
1887 Austin, James J. M., of Dalmakerran, Thornhill
1888 Baird, Alexander, Hoddomtown, Ecclefechan
1871 Baird, John, Solicitor, Lockerbie
1895 Barber, William, Tererran, Moniaive
1903 Barbour, John, Bengall, Lockerbie
1906 Bartholomew, James, Kinnelhead, Beattock
1895 Beattie, John, Baurch, Rigg, S.O., Carlisle
1893 Beattie, Lewis, Mossknowe, Canonbie
1903 Beattie, Thos., Dumfedling, Langholm
1897 Beattie, Thomas, Torduff, Annan
1868 Bell, Alexander, Stobahill, Lockerbie
1886 Bell, George, Crossbankhead, Ecclefechan
1903 Bell, James, Brydekirk Mains, Annan
1901 Bell, John, Dornock House, Annan
1903 Bell, John, Torbeckhill, Ecclefechan
1906 Bell, John Mackintosh, of Roundstonefoot, Moffat (15 Belgrave Place, Edinburgh)
1901 Bell, Robt. Nixon, Newton, Kirkpatrick-Fleming, Ecclefechan
1904 Berney, Sir Henry Hanson, Bart. (of Barton Bendish, Stoke Ferry), Burncrook, Moffat
1878 Berwick, John, Burn, Thornhill
1895 Blackley, John, Marchhill, Dumfries
1878 Borland, John, Auchencairn, Closeburn, Thornhill
1903 Borthwick, A. Hay, Billholm, Langholm
1898 Brand, David, Hangingshaw, Lockerbie
1895 Broatch, Geo., Justinlees, Annan
1890 Brodie, W. A. G., Crichton Asylum, Dumfries
1895 Brook, E. J., of Hoddom, Hoddom Castle, Ecclefechan
1902 Brown, David, Stepford, Auldgirth
1886 Brown, James, Burnside, Holywood, Dumfries

Admitted
1903 Brown, James, Shillahill, Lockerbie
1902 Brown, John, Threecrofts, Dumfries
1899 Brown, Joseph, Holestane, Thornhill
1886 Brown, Stephen, Boreland, Lockerbie
1877 Brown, T. M., Closeburn Castle, Thornhill
1895 Burnie, William, Penlaw, Lockerbie
1904 Butter, Peter, Atholl Bank, Noblehill, Dumfries
1903 Byers, James, Gimmenbie Mains, Lockerbie
1895 Callander, Gavin, Palmerston Iron Works, Dumfries
1906 Cameron, James, Lincluden Mains, Dumfries
1895 Campbell, John, Knockenjig, Sanquhar
1903 Carlyle, Thos. R., Waterbeck, Ecclefechan
1893 Carlyle, William Lee, Templehill, Ecclefechan
1886 Carmont, James, British Linen Company Bank, Dumfries
1896 Carruthers, F. J., of Dormont, Lockerbie
1895 Carruthers, William R., Stenrieshill, Wamphray, Beattock
1895 Caven, James, Snade, Auldgirth
1906 Chalmers, John, Charlesfield, Annan
1903 Chapman, Andrew, Dinwoodie Lodge, Lockerbie
1876 Charlton, John, Corn Merchant, Dumfries
1903 Charlton, John, Loreburn Park, Dumfries
1903 Clark, A. M., Hoddom Estates Office, Ecclefechan
1895 Clark, James, of Nunland, Dumfries
1895 Common, John, Cross Dykes, Lockerbie
1878 Cormack, John F., Solicitor, Lockerbie
1903 Cowan, Ronald L., Hallguards, Ecclefechan
1897 Crabbe, Major, Duncow, Dumfries
1890 Craig, Edward J., Waterhead, Dryfe, Lockerbie
1897 Craig, James, Burnfoot, Sanquhar
1895 Craig, John, Burnfoot, Sanquhar
1881 Crawford, Jas., Floshend, Gretna
1892 Crawford, Peter, Dargavel, Dumfries
1903 Crichton, D. W., Limekilns Farm, Annan
1870 Critchley, J. A., Stapleton Tower, Annan
1903 Crosbie, John, Chapelhill, Caerlaverock, Dumfries
1899 Cross, M. M., Annan
1895 Dalgleish, Robert, Auchengruith, Sanquhar
1903 Dalgleish, Robert, Ulzieside, Sanquhar
1878 Dalziel, Adam, Chanlockfoot, Penpont
1869 Dalziel, James, Auctioneer, Dumfries
1903 Dickie, David, Tower, Sanquhar

Admitted
1895 Dickie, Joseph, South Cowshaw, Tinwald, Lochmaben
1862 Dickson, John H., Dabton, Thornhill
1878 Dobie, David, Banker, Lockerbie
1900 Donaldson, Andrew, Posting Master, Thornhill
1903 Donaldson, Thomas, Sarkshields, Ecclefechan
1868 Douglas, A. H. Johnstone, Comlongon Castle, Ruthwell, R.S.O.
1882 Douglas, J., Breconside, Thornhill
1907 Duff, Thomas, 80 High Street, Annan
1898 Duncan, John Bryce, Newlands, Dumfries
1891 Dunlop, Colin, Lockerbie House, Lockerbie
1906 Dunlop, George, Stapleton, Annan
1903 Easton, John, Brownfield, Dumfries
1895 Edgar, James, Castlehill, Lockerbie
1895 Erskine, Robert, Glenholm, Lockerbie
1906 Erskine-Scott, Henry, Dunnabie, Ecclefechan
1895 Ewart, John, Gotterbie, Lockerbie
1877 Farish, Samuel T., Annan
1877 Farish, William R., Amisfield Tower, Dumfries
1895 Fergusson, J. H., Crochmore, Dumfries
1878 Fleming, Gavin, Crowdieknowe, Ecclefechan
1904 Fleming, John, Crowdieknowe, Ecclefechan
1884 Fletcher, D. M., Burnhead House, Lockerbie
1895 French, John, Glenmanna, Thornhill
1895 Fulton, Arch., Tinwald House, Torthorwald, Dumfries
1872 Galbraith, W. W., Shinnelhead, Thornhill, Dumfriesshire
1895 Gass, Thomas, Hillhead, Kirkpatrick-Fleming, Ecclefechan
1908 Gibson, Adam Kennedy, Springkell, Ecclefechan
1904 Gibson, John, Bruntshields, Lochmaben
1895 Gibson, Richard, Bogge, Penpont
1904 Gibson, Samuel, Summerfield, Dumfries
1904 Gibson, Thomas, Auchencrieff, Dumfries
1873†Gillespie, Rev. John, LL.D., Mouswald Manse, Ruthwell, R.S.O.
1884 Gillespie, William, Alton, Moffat
1903 Gladstone, Steuart, of Capenoch, Thornhill
1895 Glover, Joseph J., 17 Castle Street, Dumfries
1895 Gordon, H. S., Solicitor, Dumfries
1895 Gourlay, Francis N. M., Twomerkland, Moniaive
1898 Graham, Christopher, Skipmyre, Lochmaben
1905 Graham, David C., Swordwell, Annan
1884 Graham, Major-General John Gordon, of Mossknowe, Ecclefechan
1903 Graham, Thomas, Marchfield, Dumfries
1895 Graham, William, Harlawhill, Canonbie
1895 Graham, William, Glenelg, Lockerbie
1859 Gray, Alex., Tanlawhill, Langholm
1880 GRIERSON, Sir A. D., of Lagg, Bart., Dumfries
1895 Grierson, John, Town Clerk, Dumfries
1872 Grieve, Arch., Albierigg, Canonbie
1897 Grieve, R. W., Kirkland, Kirkconnel, Sanquhar
1896 Grossart, Robert F., M.R.C.V.S., Milton, Beattock
1895 Hatterslay, Neil S., Dalswinton, Dumfries
1897 Henderson, George H., Kelloside, Sanquhar
1895 Henderson, Jas., Cotland, Dumfries
1895 Henderson, Jas. K., Buttknowe, Kirkconnel, Sanquhar

Admitted
1887 Henderson, John, Solicitor, Dumfries
1906 Hill, Basil H., Archbank, Moffat
1895 Holmes, Robert K., Broomrigg, Holywood, Dumfries
1895 Hotson, Ninian Wilson, Kirtleton, Ecclefechan
1878 Houston, John, 2 Dunbar Terrace, Dumfries
1895 Hunter, David, Shearington, Caerlaverock, Dumfries
1907 Hunter, Robt., Woodside, Kirkbean, Dumfries
1895 Hyslop, Peter, Stapleton, Annan
1895 Irvine, Wm., Job and Postmaster, Dumfries
1895 Irving, David A., Cowburn, Lockerbie
1883 Irving, D. J. Bell, Bankside, Lockerbie
1904 Irving, Francis, Pennersaughs, Ecclefechan
1885 Irving, H. C., of Burnfoot, Ecclefechan
1895 Irving, John Bell, of Millbank, Lockerbie
1895 Irving, Thomas, Pearsbyhall, Lockerbie
1895 Jackson, James W., Lochhouse, Beattock
1905 Jackson, Stanley, Craiglearn, Moniaive
1895 Jackson, Thos., Blindhillbush, Lockerbie
1895 Jardine, David Jardine, of Jardine Hall, Lockerbie
1895 Jardine, Robert, Corsua, Lockerbie
1893 JARDINE, Sir Robert William Buchanan, Bart. of Castlemilk, Lockerbie
1896 JARDINE, Sir William, of Applegarth, Bart., Castle Street, Dumfries
1890 Jeffrey, John J., Blackaddie, Sanquhar —*Free Life Member*
1903 Johnson-Ferguson, A., yr. of Springkell, Ecclefechan
1903 Johnson-Ferguson, Sir J. E., of Springkell, Bart., Ecclefechan
1895 Johnston, Archibald F. Campbell, Carnsalloch, Dumfries
1877 Johnston, James, Helenbank, Noblehill, Dumfries
1870 Johnstone, J. J. Hope, of Annandale, Raehills, Lockerbie
1881 Johnstone, Michael, Alton, Moffat
1895 Joynson, Francis, New Park, Annan
1906 Kennedy, Jas. D., Casthill, Dumfries
1908 Kennedy, William, Luce Mains, Ecclefechan
1864 Kerr, Abram, Old Graitney, Gretna
1878 Kerr, Archibald, Townhead, Ruthwell, R.S.O.
1903 Kerr, William, Old Graitney, Gretna
1892 Kirkpatrick, Andrew, Longbridgemuir, Ruthwell
1898 Kirkpatrick, James, Newbie, Annan
1895 Kirkpatrick, Thomas, Byneholm, Penpont, Dumfriesshire
1903 Laurie, C. V. E., yr. of Maxwellton, Moniaive
1895 Lawrie, James, Auction Mart, Dumfries
1884 Lawrie, John P., Shieldhill, Lochmaben
1878 Lennox, David, Merchant, Dumfries
1895 Lennox, James, Merchant, Dumfries
1905 Lindsay, James, Brieryhill, Lockerbie
1873 Lindsay, James, Whitecastles, Lockerbie
1895 Lindsay, James, V.S., Whitesands, Dumfries
1895 Lindsay, William, West Roucan, Dumfries
1878 Little, James Church, Burnfoot, Langholm
1888 Little, Murray, Solicitor, Annan
1895 Little, William, Gladenholm, Amisfield, R.S.O.

Admitted
1895 Lorimer, William, Raecleugh, Moffat
1895 Lyon, J Stewart, of Kirkmichael, Dumfries
1887 M'Call, Alexander, Castlemains, Lochmaben
1870 M'Call, James, of Caitloch, Moniaive
1899 M'Call, Thomas, Johnstone Place, Lockerbie
1895 M'Call, William, Broomfield, Glencairn, Moniaive
1907 M'Clure, James, Clydesdale Bank, Lockerbie
1878 M'Clure, Wm , Banker, Lockerbie
1887 Macdonald, Alexander, Grain Merchant, Lockerbie
1907 M'Donald, James, High Street, Annan
1895 Macdonald, J C R , W S , Dumfries
1893 Macdonald, Major William Bell, of Rammerscales, Lockerbie
1878 Macfarlan, George, Closeburn Mains, Thornhill
1900 MacGregor Peter, Factor, Springkell, Ecclefechan
1886 M'Intosh, A J , V S Dumfries
1903 M'Intosh, Duncan, West Mains, Dumfries
1895 M'Intosh, John S , Drummuir, Ruthwell, R S O
1887 M'Jannet, F J , Gateslack, Thornhill
1888 M'Jerrow, David, Solicitor, Lockerbie
1894 M'Jerrow, Jas Ewart, Fairfield, Lockerbie
1886 Mackenzie, John A , Solicitor, Lockerbie
1905 Mackenzie, Thos , Mansfield, Thornhill
1895 Mackie, Andrew, Aitchisons Bank, Gretna
1895 Mackie, George, Dornock Mains, Annan
1900 Mackie, John, Dalfibble, Dumfries
1895 Mackie, William, Wamphray Gate, Beattock
1878 MacMaster, James, Newtonrigg, Dumfries
1895 M'Millan, John J , Glencrosh, Moniaive
1895 M'Millan, Robert, Woodlea, Moniaive
1895 M'Millan, Thomas, Glencrosh, Moniaive
1895 M'Murray, Alex , Catherinefield, Dumfries
1895 Macrae, D M , Stenhouse, Thornhill
1840 Malcolm, W E , of Burnfoot, Langholm
1890 Martin, J C , of Netherwood, Dumfries
1880 Martin, William, Dardarroch, Dumfries —*Free Life Member*
1903 Mathews, Robert, The Linns Torthorwald, Dumfries
1889 Maxwell, Charles H , Dalruscan, Dumfries
1895 Maxwell, M'Kill, Coshogle, Thornhill
1900 Maxwell, Wellwood Hyslop, Steilston House, Dumfries
1895 Maxwell, William, Chemical Manufacturer, Bellevue, Dumfries
1898 Millar, William J , Engineer, Annan
1895 Milligan, George F , Burnmouth, Thornhill
1870 Milligan, John, Auldgirth, Dumfries
1895 Milligan, John, Crairie Park Durrisdeer, Dumfries
1904 Milligan Samuel, M A , B Sc , Hayfield, Thornhill
1899 Milne, R W , Sibbaldbie, Lockerbie
1886 Milne, Thomas, Grain Merchant, Lockerbie
1870 Minto, John D , Elmbank, Dumfries
1895 Moffat, Francis, Craigbeck, Moffat
1893 Moffat, James, Gateside Sanquhar
1892 Moffat, Thomas, Sunnyhill, Dumfries
1883 Moffat, William, Garwald, Langholm
1895 Moffat, Wm Kennedy, of Shillingland, Kilquhanity, Castle Douglas

Admitted
1903 Morton, Hugh, Dalmakethar, Lockerbie
1878 Murray, Allan, Castlemilk Mill, Lockerbie
1895 Murray, John, Cleughside, Lockerbie
1895 Murray, William, British Linen Co Bank, Sanquhar
1900 Murray, William, of Murraythwaite, Ecclefechan
1879 Murray, W G G , Hillside, Lockerbie
1895 Osborne, James, Dinning, Closeburn, Dumfries
1890 Osborne, Robert, Morton Mains, Thornhill
1904 Oswald, Major Julian, Kindar Lodge New Abbey, Dumfries
1870 Paterson, D J , Watch Hall, Annan
1905 Paterson James S , Quhytewoollen, Lockerbie
1895 Paterson, John, Fingland, Wamphray, Moffat
1885 Paterson, John S , Craigdarroch, Sanquhar
1903 Paterson, Robert, Holms, Beattock
1899 Paterson, Robert, Longbedholm, Moffat
1900 Paterson, Robert Jardine, of Balgray, Lockerbie
1885 Paterson, Wm , E Craigdarroch, Sanquhar
1884 Pearson, A G , of Luce, Annan
1903 Pickering, R Y , of Conheath, Dumfries
1884 Primrose, John, Solicitor, Dumfries
1895 Primrose, Robert, Kirkbog, Thornhill
1898 Ramsay, Rev Dr Ogilvy, Closeburn Manse, Thornhill
1895 Rankin, John S , Waulkmill, Thornhill
1886 Rannie, D W , Castle Street, Dumfries
1899 Reid, Charles W , King's Arms Hotel, Lockerbie
1895 Reid, James S , Westwood Dumfries
1895 Richardson, James, Hartbush, Tinwald
1884 Richardson, John, Braehead, Heck, Lockerbie
1878 Richardson, William, Milnfield, Annan
1884 Richardson, Wm , Hardbush, Amisfield, R S O
1895 Richardson, William, Mansfield House, Moffat
1865 Ritchie, William, Hope Lodge, Moffat
1895 Robinson, R , Steam Mills, Annan
1893 Robson, John, County Buildings, Dumfries
1884 Roddick, Frank, Trailtrow, Ecclefechan
1903 Rogerson, James, Kirklands, Lockerbie
1903 Rogerson, John K , Eldin, Moffat Road, Dumfries
1895 Rogerson, Robert, Seedsman, Dumfries
1903 Russell, George, National Bank of Scotland, Dumfries
1895 Rutherford, Dr James, Crichton Royal Institution, Dumfries
1895 Rutherford, John, M P , Summerhill, Annan
1884 Sandilands, Robert, Corsebank, Sanquhar
1900 Sandilands, Wm , Ballinnie, Moniaive
1878 Scott, Robert A , Fairfield, Dumfries
1893 Scott, William Black, Alison's Bank, Gretna, N B
1903 Scrimgeour, James Mainholm, Hoddom, Ecclefechan
1895 Sloan, William, Shawsmuir, Closeburn, Thornhill
1895 Smith, Matthew, Townhead, Thornhill
1870 Smith, Thomas, Twiglees, Lockerbie
1878 Smith, Thomas K , Braes House, Ecclefechan

Admitted

1895 Steel, Arthur Jackson, of Kirkwood, Lockerbie
1907 Steele, James, Foulsyke, Annan
1895 Steel, James, Pennyland, Dalswinton, Dumfries
1886 Stobo, James, Halliday Hill, Auldgirth
1878 Struthers, Wm., Logan Mains, Canonbie
1903 Symington, Arch., of Allanton, Auldgirth
1886 Symons, John, Solicitor, Dumfries
1903 Tayleur, Eric, Kirkconnel Lea, Dumfries
1878 Thomson, Robert, Carlowrie, Annan Road, Dumfries
1879 Tod, William, Halleaths Farm, Lochmaben
1903 Tweedie, Major-General W., of Lettrick, Dumfries
1903 Urquhart, James H., Eaglesfield, Ecclefechan
1902 Urquhart, Joseph, Eaglesfield, Ecclefechan
1904 Veitch, George Douglas, of Eliock, Sanquhar
1893 Veitch, W. H., Park House, Ecclefechan
1894 Vivers, William, Dornocktown, Annan
1895 Walker, Captain Laurie, of Crawfordton, Thornhill
1886 Wallace, James R. W., Auchenbainzie, Thornhill
1889 Wallace, John William, Ford, Thornhill
1875 Waugh, John, Greenwood Hall, Moffat
1907 Weir, James, Brick House, New Abbey Road, Dumfries
1899 Welsh, Tom, Ericstane, Moffat
1886 Whitelaw, James W., Solicitor, Dumfries
1895 Wightman, James, South Mains, Sanquhar
1896 Will, George, Crichton Royal Institution, Dumfries
1895 Williamson, Ninian Alex., of Carzield, Kirkmahoe, Dumfries
1903 Williamson, Thomas, Drumbuie, Sanquhar
1895 Wilson, Alexander, Stakeford, Dumfries
1870 Wilson, James R., Banker, Sanquhar
1900 Wilson, James, Tundergarth Mains, Lockerbie
1878 Wilson, John, Tinwaldshaws, Tinwald, Dumfries
1895 Wilson, John, Boghead, Dumfries
1878 Wilson, P. M'C., Muirside, Holywood, Dumfries
1877 Wright, Thos., Howgillside, Ecclefechan
1903 Wyllie, James, Bankhead, Lochmaben
1895 Wyllie, James, Grain Merchant, 3 Loreburn Park, Dumfries
1864 Yorstoun, M. C., of Tinwald, Irvine House, Canonbie
1895 Young, Homer, Redhills, Dumfries
1904 Young, Robert, Hardgrave, Ruthwell, R.S.O.

KIRKCUDBRIGHT.

1889 Adamson, John, of Craigadam, Brooklands, Crocketford, Dumfries
1895 Allan, Robert, Howwell, Kirkcudbright
1870 Anderson, Robert, Alleyford, Kirkgunzeon
1904 Armstrong, Robert, Littleton, Gatehouse
1889 Barbour, Wm., Cuilpark, Castle-Douglas
1884 Barrowman, John H., Corrahill, Kirkcudbright
1886 Biggar, Wm., Chapelton, Dalbeattie
1895 Blair, James Edward, Drumpark Mains, Dumfries
1903 Bone, James, Lochvale, Castle-Douglas
1903 Brown, J. H. Balfour, Goldielea, Dumfries

Admitted

1903 Brown, James, of Barlay, New Galloway (32 Moray Place, Edinburgh)
1903 Brown, James, of Knockbrex, Kirkcudbright (Longfield, Heaton Mersey, Manchester)
1870 Brown, Joseph, Hermitage, Dalbeattie
1895 Brown, Robert, Blairshinnoch, Kirkgunzeon, R.S.O.
1895 Brown, William, Balannan, Ringford, N.B.
1903 Brown, William, of Netherlaw, Kirkcudbright
1892 Caird, James A., of Cassencary, Creetown
1895 Callander, Alex., Palmerston Saw Mills, Maxwelltown, Dumfries
1895 Callander, Gavin, Palmerston Iron Works, Dumfries
1895 Callander, Samuel, Clunie, Terregles, Dumfries
1885 Campbell, Robert J., Cuil, Castle-Douglas—*Free Life Member*
1903 Campbell, Wm. George, High Borgue, Twynholm, Castle-Douglas
1879 Cannon, James, Urioch, Castle-Douglas —*Free Life Member*
1877 Cannon, John, Rosebank, Dalbeattie
1874 Chalmers, Arch., of Kipp, Dalbeattie
1895 Clark, James, of Nunland, Dumfries
1895 Clark, William, Culmain, Crocketford, Dumfries
1890 Cliff-M'Culloch, Edward A., Kirkclaugh, Gatehouse
1903 Coats, W. A., of Dalskairth, Dumfries
1903 Cochrane, Captain William, Torrorie, Preston Mill, Kirkbean, Dumfries
1903 Cochrane, William, jun., Torrorie, Preston Mill, Kirkbean, Dumfries
1896 Copland, Thomas, Seeside, Terregles, Dumfries
1899 Corrie, Thomas, Southpark, Kirkcudbright
1903 Craigie, John, Farmer, Creetown
1894 Crawford, Hugh W. B., Chapmanton, Castle-Douglas
1895 Crawford, William, Whiteside, Kirkgunzeon, R.S.O.
1866 Cuninghame, R. D. B., of Hensol, New Galloway Station
1902 Cunningham, Henry, Whitecairn, Dalbeattie
1889 Cunningham, John, Tarbreoch, Dalbeattie
1879 Currie, John, Kirkeoch, Kirkcudbright
1895 Douglas, John, Barstibly, Castle-Douglas
1895 Douglas, Thomas, Lochdougan, Castle-Douglas
1895 Douglas, William, Maryfield, Terregles, Dumfries
1878 Douglas, Wm. D. R., of Orchardton, Castle-Douglas
1903 Dudgeon, Cecil Randolph, Cargen, Dumfries
1903 Dudgeon, Robt. Maxwell, 79th Cameron Highlanders, Cargen, Dumfries
1877 Dudgeon, R. F., of Cargen, Dumfries
1889 Duncan, James, East Glenarm, Crocketford, Dumfries
1884 Dunlop, Captain H. L. Murray, of Corsock, Dalbeattie
1903 Fairhurst, Thomas, of Borness, Kirkcudbright (Kilhey Court, Worthington, near Wigan)
1889 Fergusson, Robert W., of Kilquhanity, Dalbeattie
1895 Fraser, Hugh, Arkland, Dalbeattie
1859 Frazer, John, Maxwellfield, New Abbey, Dumfries
1899 Frood, W. J., Mainsriddle Inn, Preston Mill, Dumfries

Admitted
1893 Galbraith, Charles E., Terregles, Dumfries
1904 Gibson, John, Priestlands, Troqueer, Dumfries
1860 Gibson, J. T., Carsethorn, Kirkbean
1882 Gillespie, Denholm, Park Hall, Maxwelltown, Dumfries
1888 Gillespie, William, Solicitor, Castle-Douglas
1886 Gilmour, W. P., Balmangan, Kirkcudbright
1886 Gordon, Alexander J., Kirkcudbright
1885 Gordon, Edward, Dunjop, Castle-Douglas
1877 Gordon, James, Castle-Douglas
1903 Gordon, Col. Wm., of Threave, Castle-Douglas
1904 Graham, John, Kirkconnell, Ringford
1895 Graham, Robert, Auchengassel, Twynholm
1878 Gray, Adam, Ingleston of Borgue, Kirkcudbright
1903 Hacking, J. H., Auchengibbert, Crocksford, Dalbeattie
1896 Halliday, William, Halket Leaths, Castle-Douglas
1903 Hannay, Colonel Wm. Rainsford, of Kirkdale, Creetown
1876 Hayman, John, Queenshill, Ringford
1878*†HERRIES, Right Hon. Lord, Kinharvey, New Abbey, Dumfries
1853 Herries, A. Y., of Spottes (16 Heriot Row, Edinburgh), Dalbeattie
1895 Herries, William D. Y., yr. of Spottes, Dalbeattie
1878 Hood, D. A., Balgreddan, Kirkcudbright
1884 Hood, Wm., Chapelton, Borgue
1886 Hope, John, Captain R.N., St Mary's Isle, Kirkcudbright
1869 Hume, A., Auchendolly, Dalbeattie
1880 Hutchison, Graham, of Balmaghie, Castle-Douglas
1904 Hutchison, Jas. Laurie M'Kie, of Lauriston Hall, Castle-Douglas
1870 Hyslop, Andrew, Auchenreoch, Dalbeattie
1886 Jamieson, John, Jameston House, Carsphairn
1878 Kennedy, J. M., of Knocknalling, Dalry, Galloway
1870 Kennedy, Wm., Marbrack, Carsphairn
1890 Kerr, Jas., Mid-Kelton, Castle-Douglas —*Free Life Member*
1860 Kerr, Thos., Kirkchrist, Kirkcudbright
1897 Keswick, James J., of Mabie, Dumfries
1878 Kirwan, L. M., Collin, Auchencairn
1883 Laidlay, R. W., Barwhinnock, Twynholm
1895 Lusk, Matthew C., Airieland, Castle-Douglas
1906 M'Adam, James, Craigley, Castle-Douglas
1870 M'Call, George, Cassalands House, Maxwelltown, Dumfries
1878 M'Conchie, John, Carsewilloch, Creetown
1878 M'Cormick, John, Lochenkit, Corsock, Dalbeattie
1895 M'Dowall, John, of Girdstingwood, Kirkcudbright
1904 M'Kerrow, Chas. Samson, Boreland of Southwick, Dumfries
1870 M'Kerrow, M. S., Boreland of Southwick, Dumfries
1878 M'Kie, John, of Bargaly, Castle-Douglas
1876 M'Larin, Dugald, Dalbeattie
1896 M'Nae, Robt., V.S., Maxwelltown, Dumfries
1895 M'Naught, Robert A., Dalry, Galloway
1897 M'Queen, James, of Crofts, Dalbeattie

Admitted
1907 M'Turk, Alex., M.R.C.V.S., Barlae, Dalry, Galloway
1899 M'Turk, John, Rockville, Castle-Douglas
1878 M'Turk, W. A., Barlae, Dalry, Galloway
1888 M'William, John, Carantyne Villa, Dalbeattie
1877 Maitland, David, of Dundrennan, Kirkcudbright
1885 Marshall, Wm., Loch Fergus, Kirkcudbright
1878 Maxwell, James, Screel, Castle-Douglas
1906 Maxwell, James Todd, Screel, Castle-Douglas
1902 Maxwell, Major J. A. C. Wedderburn, of Glenlair, Dalbeattie
1878 Maxwell, W. J., Terregles Banks, Dumfries
1903 Maxwell, W. J., yr. of Munches, Dalbeattie
1879 Maxwell, Wellwood, of Kirkennan, Dalbeattie
1886 MAXWELL, Sir W. F., of Cardoness, Bart., Gatehouse
1878†Maxwell, W. J. H., of Munches, Dalbeattie
1904 Miller, John Richard, Crochmore, Irongray, Dumfries
1895 Miller, William, Powillimount, Kirkbean, Dumfries
1903 Milligan, J. E., Solicitor, Dalbeattie
1878 Mitchell, Andrew, Barcheskie, Kirkcudbright
1878 Montgomery, And., of Netherhall, Castle-Douglas
1907 Montgomery, Andrew Mitchell, Netherhall, Castle-Douglas
1879 Montgomery, John, Compstonend, Twynholm
1878 Montgomery, William, Banks, Kirkcudbright
1893 Morton, David, Cally, Gatehouse
1877 Muir, Wm., Craigville, Kirkcudbright
1879 Murray, G. R., of Parton, Castle-Douglas
1895 Neilson, John, of Mollance, Castle-Douglas
1899 Neilson, W. Montgomerie, of Queenshill, Kirkcudbrightshire
1890 Nicholson, William, Bombie, Kirkcudbright
1873 Nivison, Stewart, Lairdlaugh, Dalbeattie
1878 Ovens, Walter, Torr House, Castle-Douglas
1903 Parker, Hugh, Boreland, Castle-Douglas
1886 Paterson, William, Broomlands, Dumfries
1902 Perman, Fred. Wm., of Drumstinchell, Southwick, Dumfries
1899 Phillipps, Charles Aldcroft, of Dildawn, Castle-Douglas
1895 Phillips, James, Carse, Kirkcudbright
1905 Picken, James, Milton, Kirkcudbright
1903 Robb, Thomas, Sheep-dealer, Castle-Douglas
1902 Saunders, A. W., Dromore, Kirkcudbright
1895 Scott, Robert T., Drumhumphry, Corsock, Dalbeattie
1883 Shennan, John K., Balig, Kirkcudbright
1888 Shennan, R., Balig, Kirkcudbright
1903 Slater, Andrew, Hartburn, Kirkcudbright
1903 Sloan, William, Larg Farm, Creetown
1882 Smith, Jas., Standingstone, Twynholm, Castle-Douglas
1877 Spalding, A. F. M., of Holm, New Galloway
1895 Sproat, George G. B., Boreland, Gatehouse, N.B.

Admitted
1878 Sproat, W. T., Borgue House, Kirkcudbright
1895 Starke, James Gibson Hamilton, Advocate, of Troqueer Holm, Dumfries
1902 Stewart, Ronald, Barcaple, Ringford, Kirkcudbright
1905 Syminton, David, Kirkcarswell, Dundrennan, Kirkcudbright
1869 Thomson, John, Bridge of Dee, Castle-Douglas
1886 Timms, H. A., of Slogarie, New Galloway
1878 Veitch, Andrew, Girthon Kirk, Gatehouse
1895 Veitch, David Y., Low Creoch, Gatehouse, N.B.
1907 Wallace, James, Chapelhill, Kirkcudbright
1879 Wallace, J., Foundry, Castle-Douglas
1886 Wallace, M. G., Terreglestown, Dumfries
1879 Wallace, R., Foundry, Castle-Douglas
1895 Wallet, William, Auction Mart, Castle-Douglas
1903 Wilkinson, H. Bevis, Corsock Estate Office, Corsock, Dalbeattie
1894 Wilkinson, John, The Grange, Kirkcudbright
1879 Williamson, A., Meikle Spyland, Kirkcudbright
1871 Williamson, Thos., Mansfield, Kirkcudbright
1903 Witham, Lieut.-Col. J. Maxwell, C.M.G., Kirkconnell, New Abbey, Dumfries
1903 Yerburgh, R., Barwhillanty, Parton, R.S.O.
1903 Young, John, Brockloch, Dalbeattie

WIGTOWN.

1893 Adair, John, Springbank, Stranraer
1903 Adair, Percy J., Solicitor, Stranraer
1898 AGNEW, Sir Andrew Noel, of Lochnaw, Bart., M.P., Stranraer
1903 Agnew, John Lockhart, Balwherrie, Leswalt
1875 Agnew, William, Hillhead, Leswalt, Stranraer
1898 Aitken, Alex., Solicitor, Church Street, Stranraer
1906 Anderson, James, Inchparks, Stranraer
1893 Anderson, John, Drummoral, Isle of Whithorn
1878 Anderson, Robert, Balgreggan, Stranraer
1894 Armitage, Arthur Calrow, of Kirroughtree, Newton-Stewart
1903 Barbour, John, Balgown, Ardwell, Stranraer
1878 Barbour, Robert, Balgowan, Ardwell, Stranraer
1893 Bennoch, James, Stranraer
1893 Bennoch, John, Solicitor, Stranraer
1896 Black, John, British Linen Co. Bank, Wigtown
1878 Black, Thomas, Craigencrosh, Stranraer
1895 Brown, Hugh, Craichlaw Mains, Kirkcowan
1895 Caldwell, Hugh, Culhorn Parks, Stranraer
1903 Chalmers, Hugh, Chlenry, Castle-Kennedy
1897 Chalmers, John, Freugh, Stoneykirk
1893 Christison, James, Barglass, Kirkinner
1903 Cochran, Andrew, High Ardwell, Kirkcolm
1893 Cochran, George, North Cairn, Kirkcolm
1877 Cochran, Robert, Caldons, Stoneykirk

Admitted
1893 Cochran, Robert, Portencallie, Kirkcolm
1885 Cochran, William, Auchentibbert, Sandhead, Stranraer
1869 Cowan, George, Mains of Park, Glenluce
1903 Craig, John, Greyhill, Stoneykirk
1895 Crawford, Archibald, Broughton Mains, Sorbie
1895 Crawford, John, Kilbreen, Lochans, Stranraer
1895 Douglas, John, Balyett, Castle-Kennedy
1870 Drew, James, of Craigencallie, Doonhill, Newton-Stewart
1893 Drew, James Lawson, Dranandow, Newton-Stewart
1903 Dunbar, Lt.-Col. Robert Lennox Nugent, of Machermore, Newton-Stewart
1893 Fergusson, James, Back-of-Wall, Glenluce
1893 Findlay, Francis, Drumbreddan, Ardwell, Stranraer
1903 Findlay, John Steel, Drumbreddan, Ardwell, Stranraer
1903 Findlay, Wm., Drumbreddan, Ardwell, Stranraer
1878 Forsyth, John, Reiffer Park, Sorbie
1903 Forsyth, John, Valleyfield, Kirkcolm
1902 GALLOWAY, The Earl of, Cumloden, Newton-Stewart
1904 Gillon, Andrew, Glasserton
1871 Gourlay, R. C., Arbrack, Whithorn
1898 Gray, John, Dairy Works, Stranraer
1903 Hamilton, Hugh, jun., 7 Bridge Street, Stranraer
1903 Hamilton, James, Penkiln, Garliestown
1903 Hamilton, Captain Wm. M. Fleming, of Craighlaw, Kirkcowan
1878 Hardie, J., jun., Mull of Galloway, Stranraer
1893 Haswell, Robert, Challochmunn, Glenluce
1848 HAY, Sir J. C. D., of Park Place, Bart., Glenluce
1895 Hewetson, John, Baltersan, Newton-Stewart
1895 Hewetson, Robert, Upper Barr, Newton-Stewart
1877 Hughan, Peter H., Cults, Whithorn
1895 Hunter, Stephen, Whiteleys, Stranraer
1888 Hunter, Wm., Garthland Mains, Stranraer
1895 Hutchison, John, Low Drummore, Kirkmaiden
1893 Kerr, George, Solicitor, Newton-Stewart
1893 Kerr, Hugh, West Galdenoch, Stoneykirk
1893 Kerr, Thomas, Banker, Newton-Stewart
1903 Lamb, Robert, Gallowhill, Stranraer
1867 Lang, Alex., Glenluce
1895 Lennox, Thomas, New Milns, Wigtown
1888 M'Caig, John, Challoch, Leswalt, Stranraer
1887 M'Caig, John, High Mye, Stoneykirk
1893 M'Caig, R. Stewart, Kilhilt, Stranraer
1903 M'Camon, John, Barnhills, Kirkcolm
1892 M'Clean, James, Auchneal, Stranraer
1892 M'Clelland, Andrew, Glenturk, Wigtown
1878 M'Clew, David A., Chapel Rossan, Stranraer
1897 M'Conchie, William, Mains of Penninghame, Newton-Stewart
1893 M'Connell, James, Boreland, Whauphill
1877 M'Connell, J. A., Chapelheron, Whithorn
1878 M'Connell, Thomas M., V.S., Wigtown
1882 M'Connell, William, Glassnick, Kirkcowan

Admitted
1884 M Cracken, Robt , Creamery, Dunragit
1893 M'Creath, Thomas, Skaith, Newton Stewart
1870 M'Culloch, John, Dinvin, Stranraer
1899 M'Douall, Andrew Kenneth, of Logan, Stranraer
1904 M'Douall, Nigel Douglas, Logan, Stranraer
1870 M'Dowall, Andrew, Auchtralure, Stranraer
1878 M'Dowall, R , Auchengallie, Port William
1905 M'Fadzean, Henry, Reyburn, Stranraer
1894 Macfarlane, Donald J , Creebank, Newton Stewart
1895 M'Garva, William, The Cottage, Ardwell, Stranraer
1893 M'Geoch, Thomas, Barncaughlaw, Newton Stewart
1893 M'Gill, Andrew, Barsalloch, Newton Stewart
1893 M'Gill, Andrew, Kildonan, Stoneykirk
1895 M'Gill, John, Grange of Cree, Newton-Stewart
1895 M'Harrie, Stair, Rephad, Stranraer
1871 M'Ilwraith Thomas, Rosebank, Stoneykirk Road, Stranraer
1878 M Ilwrick, Alex , Quarter, New Luce
1900 M'Intyre, James, Logan Mains, Ardwell
1904 Mackeand, A W, M R C V S, Port William
1880 M'Keand, P , Airlies, Whauphill
1893 M'Lean, Charles Arbuthnot, Solicitor, Wigtown
1874 M'Master, Allan, Dinvin, Portpatrick
1871 M'Master, Hugh, Blairbuy, Port William
1875 M'Master, William, Challoch, Dunragit
1889 M'Master, Wm , junior, Challoch, Dunragit
1895 M'Millan, James, Palgown, Newton Stewart
1905 Marshall, Albert James, Bridgebank, Stranraer
1896 Marshall, J , jun , Drummore
1885 Marshall, Mathew, Bridgebank, Stranraer
1878 Matthews, A. B , British Linen Bank, Newton Stewart
1877 Maxwell, Sir H E , of Monreith, Bart , M P , Whauphill, N B
1887 Menzies, W. M , Cults, Castle Kennedy
1875 Milroy, James, Galdenoch, Stoneykirk

Admitted
1876 Milroy, John, Galdenoch, Stranraer
1895 Morrison, D. William, Derry, Kirkcowan
1895 Morrison, David, Boreland, Kirkcowan
1896 Murray, John, Kilfillan, Glenluce
1893 Murray, William, Borrowmoss, Wigtown
1893 Nicholson, Andrew, Kidsdale, Whithorn
1893 Niven, John F , Mahaar, Kirkcolm
1903 Parker, John, Balyett, Stranraer
1903 Parker, William, Inchparks, Stranraer
1895 Paton, Robert, Mains of Airies, Ervie, Stranraer
1903 Rain, William, South Balfern, Kirkinner
1883 Ralston, Wm H , Dunragit Estate Office, Dunragit, N B
1897 Ritchie, John, Lochans Mill, Lochans
1893 Robertson, James, Clendrie, Kirkcolm
1906 Rodan, John Miller, Millbank, Glenluce
1878 Routledge, J J F , Old Mill, Port William
1903 Routledge, Joseph, Barsalloch, Port William
1870 Routledge, Wm , Elrig, Whithorn
1893 Salomon, William Thomas, Cornwall Park, Newton Stewart
1893 Shaw, David Burnie, Garlieston
1878 Smith, William, Garrarie, Port William
1904 Sproat, Wm North Balfern, Kirkinner
1904 Stair, the Earl of, Lochinch, Castle Kennedy Station
1869†Stewart, Sir M J , of Southwick, Bart , Ardwell
1893 Symington, Thomas, Solicitor, Glenluce
1893 Taylor, Peter, Longforth, Glenluce
1871 Thompson, Alexander, Barmeal, Port William
1893 Thorburn, John, Port of Spittle, Stoneykirk
1893 Tully, William, Colfin, Stranraer
1903 Walker, H H , Monreith Estate Office, Whauphill
1882 Walker, Wm Albert Villa, London Road, Stranraer
1890 Wallace, James A , Claycrop, Kirkinner
1887 Watson, Allan Thomson, Belmont, Stranraer
1870 Whyte, James A , Kirkmabreck, Stranraer
1903 Williams, E H Lawson, Holm of Bargrennan, Newton Stewart
1894 Wither, Thos , Awhirk, Stranraer
1860 Young, J A , Orchardtown, Garlieston
1893 Young, William, Culnoag, Sorbie

7.—INVERNESS DISTRICT.

EMBRACING THE

COUNTIES OF CAITHNESS, ELGIN, INVERNESS, NAIRN, ORKNEY AND SHETLAND, ROSS AND CROMARTY, AND SUTHERLAND.

CAITHNESS.

Admitted
1874 Adam, Thomas, of Lynegar, Wick
1901 Anderson, William S., Shrubbery Bank, Thurso
1901 Barnetson, Benjamin, Milton, Wick
1901 Budge, James, Barnyards, Wick
1901 Clyne, Alexander, of Tister, Bower, Caithness
1901 Davidson, Charles, Coggle, Watten, Caithness
1901 Davidson, James, West Watten, Caithness
1901 Dunnet, Alex., Joiner, Bower, Wick
1894 Dunnet, Alex., Upper Gillock, Wick
1901 Dunnet, George, Greenland, Castletown, Caithness
1894 Ferrier, Jas., Ackergill Mains, Wick
1898 Geddes, Alex., Implement Maker, Wick
1902 Gunn, David, Murkle Estates Office, Thurso
1874 Henderson, A. W., of Bilbster, Wick
1883 Henderson, David P., of Stemster, Halkirk, N.B.
1883 Henderson, Captain J. H., Rosebank, Wick
1881 Horne, Edward Wm., of Stirkoke
1892 Innes, Donald, Borlum, Reay, Thurso
1905 Innes, J. D., Calder Mains, Halkirk, Thurso
1873 Irvine, G. F., Shrubbery Bank, Thurso
1901 Keith, Peter, Ulbster Estates Office, Thurso
1901 Keith, Wm., West Canisbay, Castleton, Caithness
1909 King, George, Berriedale, Caithness
1897 Macdonald, George, Pennyland, Thurso
1901 M'Ivor, John, Borrowston, Reay, Caithness
1905 Mackay, Donald, Town and County Bank, Thurso
1907 Mackay, John T., Rattar Mains, Dunnet
1901 Mill, Peter, Achscrabster, Thurso
1861 Miller, John, of Scrabster, Thurso
1894 Morris, Robt., Reis Lodge, Wick
1901 Morrison, Tom, Achvarsdale, Reay, Thurso
1901 Nicholson, Alex., East Murkle, Thurso
1899 Nicholson, Daniel, Olrig Mains, Thurso
1881*†PORTLAND, His Grace the Duke of, K.G., Langwell, Wick
1869 Purves, William, Thurdistoft, Thurso
1884 Robertson, Robert, Implement Maker, Wick
1906 Robson, John, jun., Lynegar, Watten, Caithness
1893 Ross, A. M., Editor, *Northern Herald*, Wick
1881 Sandison, M., Hempriggs, Wick—*Free Life Member*

Admitted
1906 Sharp, Adam James, Clyth, Caithness
1900 Sinclair, Donald, Implement Maker, Wick
1901 Sinclair, Donald, Stemster, Westfield, Thurso
1902 Sinclair, Fred. Granville, of Mey, Barrogill Castle, Thurso
1857 SINCLAIR, Sir J. G. T., of Ulbster, Bart., Thurso Castle, Thurso
1886 SINCLAIR, Sir John R. G., of Dunbeath, Bart., Barrock House, Wick
1855 Smith, James, of Olrig, Thurso
1876 Sutherland, Alex., Rampyards, Watten—*Free Life Member*
1901 Swanson, William, Rockhill Farm, Wick
1901 Younger, Alex. Hay, Castletown, Caithness

ELGIN.

1901 Adam, Alex., Kinneddar, Lossiemouth
1889 Adam, John, Coulardbank, Lossiemouth
1884 Anderson, Robert, Viewfield, Elgin
1899 Anderson, William, Wester Coltfield, Alves, Forres
1901 Austin, Alex., Grand Hotel, Elgin
1902 Ballingall, P. L., Altyre Estates Office, Forres
1902 Baxter, Clement, M.R.C.V.S., Elgin
1879 Beattie, James, Earlsmill, Forres
1901 Black, W. Rose, Town and County Bank, Elgin
1893 Brown, James, Miltonhill, Alves, Forres
1895 Brown, James Paterson, Innesmill, Urquhart, Elgin
1878 Bruce, D. C., Byres, Fochabers
1884 Brydon, John, Forester, Rothes
1901 Butler, Patrick, Hillhead, Forres
1901 Calder, Charles C., Assistant Factor, Earlsmill, Forres
1871 Colvin, James E., Wester Manbeen, Elgin
1878 Cruickshank, David, Meft, Elgin
1905 Cumming, D. G., Royal Bank, Forres
1874 CUMMING, Sir Wm. G. Gordon, of Altyre, Bart., Forres
1902 Cunningham, David J., Factor's House, Fochabers
1901 Dawson, George, Kintrae, Elgin
1876 Dawson, William, Gordon Castle, Fochabers
1895 Dean, Alexander, Jointure, Leuchars, Elgin
1899 Dean, James, Hatton, Kinloss, Forres
1894 Dean, Wm., Miltonbrae, Elgin
1870 Duff, J. W. Wharton, of Orton, Orton House, Fochabers
1888 Edgar, James, Station Hotel, Elgin

Admitted
1904 Edgar, James, jun., Gordon Arms Hotel, Fochabers
1885 Ferguson, George A., Surradale, Elgin
1893 Fettes, John, Westertown, Fochabers
1893 Fettes, William, Corskie, Garmouth
1901 Findlay, John F., Trochelhill, Fochabers
1893 Forbes, Robert, Woodhead, Forres
1901 Forsyth, Robert, Claydales, Forres
1895 Fraser, Alexander, Earnside, Alves, Forres—*Free Life Member*
1901 Fraser, Donald, Hempriggs, Alves, Forres
1893 Fraser, William, Waterford Mills, Forres
1893 Grant, Charles, Drumbain, Rothes
1859*†GRANT, Sir George Macpherson, of Ballindalloch, Bart.
1900 Grant, G. B. Macpherson, The Castle, Ballindalloch
1894 Grant, Jas., of Glen Grant, Rothes
1894 Grant, John, Bogg, Advie
1879 Grant, J., Mains of Advie, Advie
1899 Grant, J. W. H., of Wester Elchies, Carron Lodge, Carron, Morayshire
1894 Grant, Robt., Farmer, Cromdale
1901 Grant-Peterkin, Montagu James, of Grange, Forres
1904 Gregory, Alex. Macdonald, Maryhill,
1880 Haddow, P. M., St Mary's, Orton Station
1905 Hastilow, George Reginald, Auchnagonaln, Grantown-on-Spey
1883 Henderson, Peter, Factor, Ballindalloch
1904 Hogg, Alex., County Road Surveyor,
1864 Hunter, John, Dipple, Fochabers
1900 Hunter, John, Union Bank of Scotland, Elgin
1899 Innes, Peter, Orbliston, Fochabers
1897 Johnston, Col. C. J., Lesmurdie, Elgin
1899 Johnstone, John A., Glenburgie Distillery, Kinloss
1893 King, William, Kingsmills, Elgin
1896 Laing, Andrew, Brandston, Lochhill,
1895 Laing, William, Wallfield, Lochhill, Elgin
1893 Law, Arthur Woodland, Sanquhar Farm, Forres
1874 Lawrence, James, Forres Mills, Forres
1893 Leitch, Andrew, Inchstellie, Alves, Forres
1877 Leitch, Simon, Rose Avenue, Elgin
1902 Longmoor, James, Linksfield, Elgin
1902 M'Bain, George, Linkwood Distillery, Elgin
1893 M'Culloch, Alexander, Ardivot, Lossiemouth
1902 M'Donald, Alex., Balmoral Terrace, Bishopmill, Elgin
1901 M'Garva, Gilbert R., Innes Estate Office, Urquhart, Elgin
1896 M'Gowan, Robert, Auction Mart, Elgin
1886 M'Gregor, Captain James, Balmenach, Cromdale
1870 Mackay, H. M. S., Banker, Elgin
1886 Mackenzie, Thomas, Dailuaine House, Carron, Morayshire
1901 Mackenzie, W. J., Stank House, Elgin
1893 Mackessack, Charles A., Asleisk, Forres
1893 Mackessack, Chas., Wester Alves, Forres
1882 Mackessack, George R., of Ardgye and Roseisle, Ardgye, Elgin
1874 Mackessack, John, Kinloss, Forres
1882 Mackessack, R. H., Newton of Struthers, Forres
1902 M'Laren, William, Altyre, Forres
1893 Maclean, George A., of Westfield, Elgin
1891 MacLeod, Major Norman, of Dalvey, Forres
1876 M'William, James, Stoneytown, Keith

Admitted
1901 Mann, John, Cairnglass, Dunphail
1893 Mathieson, Alex., Doonpark, Forres
1893 Mavor, George, Cluny, Forres
1901 Mavor, Richard, Wellhill, Forres
1896 MORAY, Earl of, Darnaway Castle, Forres
1872 Muirhead, George, Speybank, Fochabers
1894 Munro, Alex., Gordon Arms Stables, Elgin
1901 Murray, William, Northern Auction Mart, Elgin
1901 Mutch, Alex. C., Keam, Duffus, Elgin
1894 Mutch, Jas., Deanshaugh, Elgin
1894 Neish, William, Merchant, Mulben, Boharm
1905 Nicol, John P., East Mains, Duffus
1894 Petrie, David, Gilston, Elgin
1883 Petrie, George, Pitairlie, Elgin
1901 Ramsay, William, of Longmorn, Elgin
1904 Reid, George, Tamdhu Distillery, Knockando, S.O.
1901 Reid, George, Rothills, Duffus, Elgin
1895 Reid, John, Gladhill, Garmouth, Elgin
1899 Rhind, Alex., Muirton, Kinloss
1893 Robertson, Hugh, Balnageith, Forres
1896 Robertson, James, Barmuckity, Elgin
1870 Robertson, Wm. A., Mayfield, Forres
1903 Robertson, Wm. Brown, jun., Coleburn, Longmorn, S.O.
1899 Rose, William M., Toreduff, Alves, Forres
1883 Russell, Alex., Myreside, Elgin
1906 Russell, Jas , 110 High Street, Elgin
1897 Scott, Peter, Mains of Moy, Forres
1874 Scott, Robert, Easter Manbeen, Elgin
1895 Sellar, William, Longhill, Elgin
1893 Shiach, Gordon Reid, Surgeon Dentist,
1901 Simpson, John, Stynie, Fochabers
1893 Simpson, William, Burnside, Fochabers
1896 Smith, James M., Salterhill, Elgin
1901 Smith, J. Grant, Seafield Estates Office,
1905 Smith, Peter, 24 North Street, Elgin
1900 Smith, Samuel M'Call, Shempston, Duffus, Elgin
1897 Souter, George, Greyfriars Iron Works, Elgin
1893 Stephen, Alexander, Coxton, Lhanbryde, Elgin
1894 Stewart, John, Rynaballoch, Cromdale
1906 Stuart, Robert Dick, Rothes
1877 Sutor, James, The Collie, Orton Station
1893 Tait, James, V.S., Forres
1874 Thomson, J. Grant, Heathfield, Grantown
1883 THURLOW, Right Hon. Lord, Dunphail, Forres
1899 Turner, James Stuart, Teacher, New Elgin
1882 Urquhart, Robert, jun., Forres
1859 Walker, Robert, Rosefield, Elgin
1864 Walker, William, Auchray Buildings, Elgin
1902 Watson, Alex., Bruceland, Elgin
1883 Watson, H. A., U.F. Manse, Forres—*Free Life Member*
1875 Watt, James, Rosebrae, Elgin
1901 Wiseman, Edward, Nurseryman and Seedman, Elgin
1870 Wight, Alexander, Ironmonger, Forres
1864 Yool, Thomas, Calcots, E

INVERNESS.

1900 Allan, Alex., Seafield Farm, Inverness
1901 Allan, John M., Easter Duthil, Carr Bridge
1901 Allison, Thomas, Solicitor, Fort-William
1901 Anderson, Alexander, 49 Eastgate, Inverness

Admitted
1886 Baillie, A. C., Dochgarroch, c/o Fletcher & Baillie, W.S., 12 Hill Street
1883 Baillie, James E. B., of Dochfour, Inverness
1891 Barron, James, Editor of the *Inverness Courier*, Inverness
1883 Birnie, Alex., Wellhouse, Beauly
1892 Birnie, John, Balnafettack, Inverness
1874 Biscoe, T. Ramsay, of Newton, Kingillie, Inverness
1902 Blackburn, Alan, Ostaig, Isle of Skye
1901 Blundell, Rev. Odo, The Procurator, The Abbey, Fort-Augustus
1876 Brebner, Robt., Ormus Cottage, Citadel, Inverness
1901 Brown, Charles M., Manager, Caledonian Bank, Inverness
1901 Burns, William, Lombard Street, Inverness
1891 Cameron, Angus, Ben Nevis Auction Mart, Fort-William
1890 Cameron, James, Coulnakyle, Nethy Bridge, S.O.
1892 Cameron, James T., Gesto, Isle of Skye
1892 Cameron, Robert D., Lochgorm, Inverness
1901 Campbell, Alex., Viewhill, Fort-George
1891 Campbell, G. J., Sheriff Substitute, The Court House, Portree
1903 Campbell, Dr Robert B., District Asylum, Inverness
1901 Cargill, A., Raigmore, Inverness
1891 Cattell, James, Balsparden, Gollanfield
1903 Chisholm, Duncan, Caiplich, Kiltarlity, Beauly
1874 Chisholm, John, 8 Academy Street, Inverness
1901 Chisholm, William, Groam, Beauly
1900 Cowan, R., Erchless, Strathglass, Beauly
1871 Cran, John, Kirkton, Bunchrew, Inverness
1900 Cran, William John, Kirkton, Bunchrew
1896 Cumming, William A., Allanfearn, Culloden, Inverness
1898 Davidson, James, Glenfeshie, Beaufort Road, Inverness
1893 Davidson, John, Guisachan Home Farm, Inverness
1888 Davidson, Samuel, Beechhill, Inverness
1901 Davidson, T. K., Kerrowaird, Gollanfield
1883 Dick, W. G., Horse-hirer, Inverness
1902 Douglas, Frances B., Balliemore, Nethy Bridge
1887 Duncan, James, Fern Villa, Inverness
1862†Dunmore, Right Hon. the Earl of, Isle of Harris
1902 Elliot, Matthew, Drummond Street, Inverness
1902 Elliot, William Robert, Drummond Street, Inverness
1890 Ferguson, Fergus, Talisker, Portree
1896 Fletcher, Grant, Balnespick, Kincraig
1894 Fraser, Alexander, Balloch, Culloden, Inverness
1894 Fraser, Alexander, Solicitor, Inverness
1883 Fraser, David, Dalneigh, Inverness
1874 Fraser, James, C.E., Inverness
1874 Fraser, James, Mauld, Beauly
1901 Fraser, John Huntly, Dalneigh, Inverness
1902 Fraser, Robert S., Bunchrew, Inverness
1852 Fraser, William, Tighneilan, Inverness
1892 Garrioch, J. T., Lovat Estates Office, Beauly
1906 Gibson, Thos., Solicitor, Inverness
1901 Gillanders, Kenneth Alex., Queen's Gate Inverness

Admitted
1901 Gordon, Roderick, Wester Inshes, Inverness
1900 Gossip, James A., Knowsley, Inverness
1901 Graham, Hugh M., Solicitor, Inverness
1907 Grant, Alex., Delrachney House, Carr Bridge
1901 Grant, John C., Garvault, Advie, Strathspey
1894 Grant, John Peter, of Rothiemurchus, Aviemore
1902 Grant, John, Mullochard, Carr Bridge
1901 Grant, Lewis, Culfoichbeg, Advie, Strathspey
1896 Grant, Peter, The Hotel, Carr Bridge
1903 Grant, Wm., The Dell, Rothiemurchus, Aviemore
1896 Gray, Donald, Union Street, Inverness
1875 Guild, James L., Strowan, Inverness
1882 Gunn, Alex., V.S., Beauly
1886 Honeyman, Thos., Auchnacarry, Spean Bridge
1901 Howe, Alex., Parks of Inshes, Inverness
1906 Hutchison, Alex., Balloan, Inverness
1905 Johnston, Hugh G., Culduthel Mains, Inverness
1900 Johnston, William, Culduthel Mains, Inverness
1883 Jones, R. E., Fassfern, Kinlochiel, S.O.
1906 Jones, Wm. Everard, Fassfern, Kinlochiel
1901 Junor, Donald, Robin Cottage, Drummond, Inverness
1889 Kemble, Major, Knock, Skye
1888 Laurie, Robert, Eilean Cottage, Drumnurn, Inverness
1891 Linton, Andrew, Cuildoiag, Onich, N.B.
1894 Livingston-Macdonald, Captain R. M., 3rd Seaforth Highlanders, Flodigarry, Isle of Skye
1901 Logan, William, V.S., 3 Victoria Circus, Inverness
1892†Lovat, Lord, C.B., D.S.O., Beaufort Castle, Beauly
1897 M'Ainsh, James, Kinchurdy, Boat of Garten
1892 MacAinsh, John, Congash, Grantown
1901 MacAllister, T. S., Imperial Hotel, Inverness
1905 M'Allister, Wm., The Hackney Stud, Inverness
1906 MacArthur, Donald Charles, Etteridge, Newtonmore, Kingussie
1902 M'Bain, Wm., Dunachton, Kingussie
1892 M'Bain, William, Piterrald, Drumnadrochet
1895 M'Bean, Daniel, Cradle Hall, Inverness
1903 MacBean, Malcolm Rae, Milton of Connage, Gollanfield
1883 M'Bean, William, Cradle Hall, Inverness
1901 M'Coll, A., 22 Eastgate, Inverness
1883 Macdonald, Alexander, Balintore, Kirkhill, Inverness
1874 Macdonald, A. R., Ord, Isle of Ornsay
1899 Macdonald, Arch. Wm., Blarour, Spean Bridge
1872 Macdonald, D., Tormore Lodge, Lyndale, Portree
1898 M'Donald, D. D., Drumnadrochet, Glen Urquhart
1889 Macdonald, Hugh, Coach Proprietor, Fort-William
1899 Macdonald, Jas. Alex. Ranald, of Balranald, Lochmaddy, North Uist
1901 Macdonald, John, Glenbrittle, Carbost, Isle of Skye
1896 Macdonald, John, Keppoch, Roy Bridge
1891 Macdonald, J. H., of Torbreck, Inver-

Admitted
1897 M'Donald, Kenneth L., Skirinish, Skeabost Bridge, Isle of Skye
1899 Macdonald, Ronald, Solicitor, Portree
1901 Macdonald, Simon, Culduthel, Inverness
1900 M'Donald, Simon, Commercial Bank, Beauly
1900 Macdonald, William, Cluny Mains, Kingussie
1883 Macdonald, William, Morayston, Petty, Inverness
1899 MacDonnell, Alexander, Dunballoch, Beauly
1865 MacEwen, John C., Inverness
1893 Macfarlane, And., Viewfield, Kingussie
1879 M'Gillivray, Allan, Banchor, Kingussie
1906 MacGillivray, Donald H., Biallid, Newtonmore, Kingussie
1899 M'Gillivray, W., Garbole, Tomatin
1876 MacGillivray, William, Eoligary, Barra
1877 M'Gregor, Arch., Glen Nevis, Fort-William
1898 Mackay, Simon (D. Ross & Co.), Baron Taylor's Lane, Inverness
1901 M'Kay, William, Solicitor, Inverness
1893 M'Kenzie, Alex., C.E., Kingussie
1902 Mackenzie, Alex., Dochfour Estates Office, Queen's House, Academy St., Inverness
1901 M'Kenzie, David Fraser, Stratton, Culloden, Inverness
1891 Mackenzie, Dr M. T., Scolpaig, Lochmaddy
1903 Mackenzie, N. B., Estate Office, Fort-William
1874 Mackenzie, N. B., British Linen Bank, Fort-William
1902 Mackenzie, R. D., Inchrory, Beauly
1901 Mackenzie, Simon, The Hotel, Lochboisdale
1886 Mackenzie, William D., of Farr, Daviot (Fawley Court, Henley-on-Thames)
1905 Mackintosh, Angus, Uig, Isle of Skye
1883†Mackintosh, A. D., of Mackintosh, Moy Hall, Inverness
1883 Mackintosh, Hugh, Balmore, Culduthel, Inverness
1903 Mackintosh, Hugh, Rose Valley, Gollanfield
1901 Mackintosh, W. W., of Raigmore, Inverness
1901 M'Lean, James, Merchant, Beauly
1901 Maclean, Neil, Nunton, Benbecula, Lochboisdale
1875 M'Leish, Daniel, Bank of Scotland, Fort-William
1901 M'Leod, Murdo, Woodend, Drummond, Inverness
1893 M'Lennan, Alexander, Beechwood, Inverness
1898 Macniven, Duncan, Fort-William
1878 Macpherson, C. J. B., of Balavil, Kingussie
1900 Macpherson, Donald, Keppoch Farm, Arisaig
1883 Macpherson-Grant, John, Old Milton, Kingussie
1883 Macrae, Alexander D., Ruthven, Kin-
1900 MacRae, Duncan, Falls of Truim, Newtonmore
1901 MacRae, Duncan A., Tomich, Beauly
1891 Macrae, Horatio Ross, W.S., of Clunes, Inverness (57 Castle Street, Edinburgh)
1874 Macrae, Roderick, Posting Establishment, Beauly
1901 Macrae, Roderick, jun., Lovat Arms Posting Establishment, Beauly
1883 MacTavish, Alex., Implement Maker, Inverness

Admitted
1901 M'Tavish, P. D., 36 Academy Street, Inverness
1900 M'William, W. L., Culmill, Beauly
1869 Malcolm, George, Craigard, Invergarry
1883 Manners, C. R., C.E., Inverness
1865 Martin, John, Docharn, Boat of Garten, Strathspey
1889 Martin, Nicol, of Glendale, Dunvegan
1884 Maxwell, Hon. B. C., Farley House, Beauly
1883 Merry, A. W., of Belladrum, Beauly
1883 Merry, C. J., Belladrum, Beauly
1874 Mitchell, Andrew, 51 Crown Street, Inverness
1900 Morison, John, Teanalonaig, Beauly
1905 Morrison, John, jun., Cairnglass, Gollanfield
1898 Murray, Donald, 60 Eastgate, Inverness
1902 Murray, John, Rangemore Road, Inverness
1901 Nairn, James, Newton of Petty, Inverness
1890 Nicholson, Arthur Wm., Arisaig House, Fort-William
1898 Oberbeck, C., 25 Inglis Street, Inverness
1861 Purves, James, Kingsburgh, Portree, Isle of Skye
1901 Rattray, John C., Easter Moniack, Inverness
1879 Reid, F. R., Wolfenden's Hotel, Kingussie
1900 Ritchie, William, Teawig, Beauly
1883 Roberts, Wm., Highland Railway Co., Inverness
1902 Robertson, Donald, Breackachy, Newtonmore, Kingussie
1906 Robertson, D. J., Dalziel, Gollanfield Station
1901 Robertson, Theodore, Auction Mart, Inverness
1894 Robertson-Macleod, K. M., of Greshornish, Isle of Skye
1890 Rose, Hugh Francis, of Holme Rose, Fort-George
1865 Rose, James, Mains of Connage, Gollanfield
1865 Rose, John, Leanach, Inverness
1883 Ross, Alex., Architect, Inverness
1883 Ross, James, Solicitor, Inverness
1883 Ross, Wm., Seafield of Raigmore, Inverness
1892 Scott, David, Auctioneer, Inverness
1901 Shaw, D., Flichity, Daviot
1883 Shaw, Duncan, W.S., Inverness
1901 Shaw, John A., Slackbuie, Inverness
1897 Sinclair, Robert, Factor, North Harris, Portree
1865 Smith, John, Inverallan House, Grantown
1900 Smith, R. A., Wester Lovat, Beauly
1906 Sopper, Wm., of Dunmaglass, Daviot, Inverness
1902 Souter, James Francis, Commercial Bank, Inverness
1901 Steele, A. F., Bank of Scotland, Inverness
1901 Stewart, Charles D., of Brin, Daviot
1887 Stewart, J. C., Glenmoidart, Moidart
1858 Stewart, Robert, of Kinlochmoidart, Salen
1896 Strother, Dr James, Balmachree, Petty, Inverness
1902 Stuart, Henry, Estate Office, Knoydart, Mallaig
1865 Sutherland, E. C., Highland Club, Inverness
1898 Thom, Allan Gilmour, Canna
1901 Thomson, Robert, Eileanach, Inverness
1883 Tytler, Edward G. F., of Aldourie, Inverness

Admitted
1889 Urquhart, Farquhar, Seedsman, Inverness
1902 Walker, James, Sawmills, Inverness
1886 Watson, Jas., Moy Hall, Moy, Inverness
1902 Wolfenden, William, Wolfenden's Hotel, Kingussie
1899 Wotherspoon, George, Cromartie Estate Office, Kildary
1901 Young, John, Oldtown, Inverness

NAIRN.

1902 Adam, Walter, Park, Nairn
1901 Allan, James, Penick, Nairn
1901 Allan, James A., Broomhill, Nairn
1906 Brodie, Capt. Alex., of Lethen, Nairn (2nd Scots Guards, Guards' Club, London)
1878 Cameron, Dr James Angus, of Firhall, Nairn
1901 Cameron, John, Merryton, Nairn
1900 Cawdor, The Earl, Cawdor Castle, Nairn
1901 Clark, Alex., Blackpark, Nairn
1891 Clark, James, 12 Waverley Road, Nairn
1900 Clark, Walter, Hilton of Delnies, Nairn
1902 Davidson, Donald, Mains of Croy, Gollanfield
1883 Donaldson, H. T., Banker, Nairn
1801 Fiddes, George, Drumduan, Nairn
1892 Finlay, Sir R. B., of Newton, K.C., Nairn
1894 Gowans, Charles F., Newton of Budgate, Cawdor, Nairn
1906 Grant, James Augustus, Househill, Nairn
1865 Joss, John, Budgate, Cawdor
1896 Macarthur, Alex., Nairnside, Cawdor, Nairn
1906 MacArthur, David, Fleenas, Nairn
1899 Macdonald, A. J., Cawdor Estate Office, Nairn
1901 M'Killican, James, Glenlyon, Nairn
1883 M'Killican, P., Glenlyon, Nairn
1891 Malcolm, William, Brackla, Nairn
1874 Mather, John Arres, Delnies, Nairn
1891 Methven, Edward W., Hazelbrae, Nairn
1885 Mill, George, Piperhill, Nairn
1901 Robertson, Hugh, Newton of Cawdor, Nairn
1892 Robertson, John, Horse-hirer, Nairn
1873 Robertson, John S., Cawdor Estate Office, Nairn
1894 Robertson, William, Tomlunquhart, Nairn
1901 Rose, Donald, Crook, Nairn
1865 Rose, Major James, of Kilravock, Gollanfield
1894 Squair, Geo., Kildrummie, Nairn
1906 Squair, John, 4 Queen's Gate, Inverness
1906 Stephen, Wm., Meikle Geddes, Nairn
1884 Stewart, D. A., Lochdhu, Nairn
1901 Tocher, James, Blairmore, Cawdor, Nairn
1875 Walker, George A., Heathmount, Nairn
1889 Walker, John Mackintosh, of Geddes, Nairn
1907 Watson, Wm., Home Farm, Cawdor Castle, Nairn

ORKNEY AND SHETLAND.

Orkney

1899 Baikie, Alex., Blanister, St Margaret's Hope
1870 Cromarty, William, Widewall House, South Ronaldshay, Orkney
1894 Davidson, William Henry Bain, Kirkwall

Admitted
1872 Drever, James, The Leigh, Stenness, Orkney
1884 Fortescue, William I., Swanbister, Kirkwall
1906 Gibson, James, Hullion House, Rousay, Orkney
1896 Heddle, Peter Sinclair, Gaitnip, Kirkwall
1902 Horne, H. H., Trumland Farm, Rousay, Orkney
1901 Ironside, William A., Bankhead, Sandwick, Orkney
1899 Irvine, James, Stove Farm, Sanday, Orkney
1879 Johnstone, James, Orphir House, Orphir
1906 Kennedy, John, Bow, Burray, Orkney
1892 MacLennan, William, Factor, Zetland Estates Office, Kirkwall
1904 Marwick, William, Estate Office, Walls, Orkney
1887 Maxwell, Henry, How, Sanday
1884 Reid, Alfred, Braebuster, Kirkwall
1905 Robertson, James M. H., Lyking, Sandwick, Stromness
1884 Scarth, Robert, Binscarth, Finstown, Orkney
1904 Skea, James G., Ayre, Deerness
1884 Stephen, Donald, Caldale, St Ola, Kirkwall
1877 Stevenson, William, Holland, Stronsay
1894 Tait, John, Papdale, St Ola, Kirkwall
1901 Ward, W. Cowper, Factor, Scar, Sanday
1878 Watt, W. G. T., Kierfiold House, Stromness

Shetland.

1884 Anderson, Gilbert, Hillswick, Lerwick
1863 Bruce, John, of Sumburgh, Lerwick
1892 Edmonston, Laurence, of Buness, Unst
1007 Edmonston-Saxby, T., Halligarth, Baltasound, Shetland
1007 Mackay, Hugh, Mailland, Baltasound, Shetland
1886 Manson, Anderson, Laxfirth, Lerwick
1891 Manson, Peter, Lunna, Shetland
1901 White, Mountford Adie, Flemington, Weisdale, Shetland

ROSS AND CROMARTY.

1901 Adam, William A., Humberston, Dingwall
1907 Allan, George Grant, Stittenham, Alness
1883 Anderson, T. A., Ballachraggan, Alness
1896 Bain, Donald, Applecross, Strome Ferry
1892 Bignold, Sir Arthur, of Loch Rosque, M.P., Achnasheen
1893 Binning, James, Strathpeffer
1902 Bisset, John A., Drumderfit, Munlochy
1901 Brook, Alex. Wm., Corn Merchant, Invergordon
1901 Brooke, John A., of Fearn Lodge, Ardgay
1887 Brown, Rev. W. L. Wallace, The Manse, Alness
1903 Budge, John Henry, Arboll, Fearn
1896 Burness, Charles, Factor, Munlochy, Ross-shire
1883 Cameron, Colin M., Balnakyle, Munlochy
1869 Cameron, Duncan, Balblair, Edderton
1896 Cameron, Kenneth Murray, Balblair, Edderton
1901 Campbell, Alex., Balnabeen, Conon, Ross-shire
1901 Carnegie, Andrew, LL.D., Skibo Castle, Ardgay
1894 Colvill, Robert, Tore, Ross-shire

Admitted
1905 Cormack, Alex , St Vincent, Tain
1901 Craigen, Alexander, Kirkton, Invergordon
1893 Cuthbert, Thomas W , Achindunie, Alness
1865 Darroch, Duncan, of Gourock Torridon, Achnasheen
1899 Davidson, A B , Lower Kincraig, Invergordon
1907 Davidson, John, Bogbain, Tain
1899 Dempster, John, Glastullich, Nigg
1903 Douglas, George, Seafield, Portmahomack
1861 Douglas, Thomas, Mains of Rhynie, Fearn
1892 Duncan, William J Solicitor, Dingwall
1901 Fearn, John, Tarradale Mains, Muir of Ord
1901 Finlayson, Roderick, Ardachie, Tain
1884 Fletcher, J D , of Rosehaugh, Inverness
1893 Forbes, Lachlan, Culcraigie, Alness
1898 Forsyth, Ian Asher, Ballintraid, Delny
1904 Fowler, John A , Drumore, Munlochy
1897 Fowler, Donald, of Mansfield, Tain
1893 Fraser, Donald, jun , Balintore Hotel, Fearn
1893 Fraser, Malcolm F , Balaldie, Fearn
1903 Fraser, Roderick, Udale, Poyntzfield, Invergordon
1902 Garrow William, Polnicol, Delny
1903 Gill, Thomas Douglas, Roskeen, Invergordon
1896 Gill, William Hope, Roskeen, Invergordon
1896 Glendinning, George E , Home Farm, Dochfour, Inverness
1874 Gordon, J A., of Arabella, Nigg
1875 Gordon, John, Cullisse, Nigg
1893 Grant, William, Rarichie Nigg
1894 Henderson, Alexander, Merchant, Dingwall
1883 Henderson, James, Culcairn, Invergordon
1884 Henderson, John, Factor, Fortrose
1889 Henderson, Thomas Assistant Factor, Fortrose
1903 Hill, Ernest G , Raddery, Fortrose
1903 Hope, Stephen Jervis, Kinnahaird, Strathpeffer
1905 Hosack, John A. Campbell, Balchraggan, Alness
1879 Inglis, George, of Newmore, Invergordon
1907 Laidlaw, J D , Scotsburn, Kildary
1901 Laing, Robert P S , Kinkell Castle, Conon
1892 Linton, John, Castle Craig, Nigg
1883 Littlejohn, Alex , of Invercharron,
1893 Logan, David, Auchtertyre, Strome Ferry
1889 Lumsden, John William, Navity, Cromarty
1901 M'Corquodale, A., Meddat, Parkhill, Ross shire
1902 M'Donald, Andrew Hall, of Calrossie, Nigg, Ross shire
1893 Macdonald, Donald, Wilkhaven, Portmahomack
1901 Macdonald, Gordon J , New More Mains, Invergordon
1902 Macfarlane, Alex , Rosemount, Tain
1895 M'Farlane, Robert, Saltburn, Invergordon
1906 M'Gillivray, John, Aldie, Tain
1874 MacGregor, James G , Tain
1897 MacIntyre, Alex Mackay, Brae, Dingwall
1901 M'Intyre, Alastair M , Findon Mains, Conon Bridge
1899 M'Intyre, John, Bellfield, North Kessock
1875 M'Intyre, P B , Mains of Findon, Conon Bridge
1875 MacIntyre, Robert, of St Martin's, Conon Bridge
1907 Mackay, David J , of Heathmount, Tain
1892 Mackenzie, Sir A G Ramsay, of Coul, Bart , Strathpeffer
1872 Mackenzie, Andrew, of Dalmore, Alness
1901 Mackenzie, Major A F , of Ord, Muir of Ord
1895 Mackenzie, A F , Inverbreakie, Invergordon
1901 Mackenzie, Col A F H Stewart, of Seaforth, Brahan Castle, Conon Bridge
1903 Mackenzie, Charles, British Linen Co Bank, Tain
1904 Mackenzie, Donald, Blackstand, Fortrose
1901 M'Kenzie, Donald, Meikle Ussie, Conon Bridge
1907 Mackenzie, E Burton, Belmaduthy Farm, Munlochy
1000 M'Kenzie, Eric G , Ardross Mains, Alness
1900 Mackenzie, Edward J , Hilton Farm, Tain—*Free Life Member*
1905 Mackenzie, Hugh, yr of Dundonnell, Dundonnell
1865 Mackenzie, James Fowler, of Allangrange, Munlochy
1895 Mackenzie, Sir Kenneth J , of Gairloch, Bart (10 Moray Place, Edinburgh)
1883 Mackenzie, William, Procurator Fiscal, County Buildings, Dingwall
1809 Mackenzie, Wm Farquharson, yr of Dalmore, Alness
1905 Mackinnon, Chas (Howden & Co), Seedsmen, Inverness
1900 Mackintosh, D , Auctioneer, Dingwall
1901 Maclean, R , of Drynie, Kessock, Inverness
1905 M'Lennan, Hugh, Ferintosh Distillery Co , Ltd , Dingwall
1902 Maclennan, John, Ardarroch, Lochcarron
1900 M'Lennan, William, Ardnagrask, Muir of Ord
1901 MacLeod, Captain R , of Cadboll, Invergordon Castle, Invergordon
1901 M'Rae, Duncan J , Fairburn Mains, Muir of Ord
1888 M'Rae, Ewen M , Kinbeachie, Conon Bridge
1905 MacRae Murdo, of Kinbeachie, Conon Bridge
1878 M'Raw Donald, Strathgarve Estates Office, Garve, R S O
1887 Matheson, Sir Kenneth J , of Lochalsh, Bart , Gledfield, Bonar
1892 Meiklejohn, John J R , Novar Evanton
1907 Meiklejohn, Wm , Dal Gheal, Novar, Evanton
1901 Meldrum, Thos G , Kilmuir Easter, Delny Station
1881 Middleton, Lord, Applecross, Lochcarron
1875 Middleton, A A , Rosefarm, Invergordon
1864 Middleton, George, Corntown, Conon
1872 Middleton, Jon , Davidston, Invergordon
1872†Middleton, Jon , Glastullich, Nigg Station
1908 Middleton, Thomas, Corntown, Conon Bridge
1898 Middleton, Walter Ross Taylor, Solicitor, Dingwall
1875 Mitchell, Andrew, Ratagan House, Lochalsh

Admitted
1897 Monro, Capt. Sir D., of Allan, Fearn
1905 Moore, D. H., Drummond, Evanton
1907 Mundell, Walter S., Wester Moy, Muir of Ord
1904 Munro, Alex., Newton of Novar, Evanton
1901 Munro, David, Tenagairn, Conon Bridge
1901 Munro, Finlay, of Rockfield, Fearn
1883†Munro, Sir Hector, of Foulis, Bart., Dingwall
1893 Munro, Hector, V.S., Fearn
1901 Munro, Kenneth, Tullich, Munlochy
1892 Munro, Stuart C., of Teananich, Alness
1891 Murdoch, Alex., Dalnavie, Alness
1875 Murdoch, James, Drynie Mains, Inverness
1904 Murdoch, Jas., jun., Drynie Mains, North Kessach, Inverness
1884 Murray, Charles, of Lochcarron, Dingwall
1883 Murray, William, Kilcoy, Muir of Ord
1892 Ness, Charles, Calrossie Mains, Nigg Station
1893 Paterson, Alex., Edderton, N.B.
1901 Paterson, William, Mains of Foulis, Evanton
1874 Paterson, Wm. G., Ord, Invergordon
1898 Perrins, C. W. Dyson, Ardross Castle, Alness
1898 Peterkin, James B., Mountrich, Dingwall
1900 Peterkin, John W., Dunglass, Conon Bridge
1901 Peterkin, William, Dunglass, Conon Bridge
1883 Rae, William, Nonikiln, Alness
1906 Rattray, Chas. Gordon, Pitglassie, Dingwall
1901 Rattray, John, Phoineas, Beauly
1884 Reid, N., New Kelso, Strathcarron, Ross-shire
1901 Robertson, John, Implement Maker, Conon Bridge
1895 Robertson, John Cameron, Fodderty, Dingwall
1904 Robertson, Peter D., Torachilty, Strathpeffer
1902 Robertson, Wm. John, Mounteagle, Fearn
1902 Ross, Andrew George, Meikle Tarrel, Fearn
1895 Ross, Donald, Balnagown Arms Hotel, Tain
1893 Ross, George, Bayfield, Nigg
1893 Ross, George A., Rhynie, Fearn
1876 Ross, James, Pollo, Delny, R.S.O.
1874 Ross, John, Meikle Tarrel, Fearn
1893 Ross, John, Railway Contractor, Fearn

Admitted
1892 Ross, John F., Pitcalnie, Nigg
1901 Ross, William, Bridgend, Dingwall
1884 Ross, William, Kinnahaird, Strathpeffer
1887 Ross, Col. W. C., of Cromarty, Cromarty
1892 Scott, James, Fearn
1893 Simpson, David William, Arcan Mains, Muir of Ord
1897 Spence, Alexander O. Stewart, of Garguston, Muir of Ord
1897 Stephen, James, Glenmorangie Distillery, Tain
1883 Stirling, John, of Fairburn, Muir of Ord
1891 Stirling, Major William, yr. of Fairburn, Ord House, Muir of Ord
1888 St Quintin, Geoffray Aspley, Cromarty
1895 Stuart, David, Estate Office, Munlochy
1900 Thompson, Alex., Conon Brae, Conon Bridge
1898 Urquhart, Charles, Ironmonger, Dingwall
1898 Urquhart, James, Kessock Farm, Kessock
1906 Vanzella, Thomas A., Broomhill, Muir of Ord
1891 Walker, William, Contullich, Alness
1901 Watson, Arch., Corn Factor, Invergordon
1901 Wood, James, Hilton, Fearn, Ross-shire
1901 Young, George, Cadboll, Fearn, Ross-shire
1901 Young, James G., Cadboll, Fearn, Ross-shire

SUTHERLAND.

1906 Cameron, James D., Kirkton, Golspie
1893 Campbell, J. R., Shinness, Lairg
1901 Dudgeon, William John, Crakaig, Loth
1905 Finlayson, Peter, West Greenland, Castletown, Thurso
1900 Hardie, Jas. F., Factor, Skibo, Dornoch
1899 Hill, Edward R., Naviedale, Helmsdale
1874 Hill, Robert Robertson, Naviedale House, Helmsdale
1899 Macaulay, A. N., Banker and Factor, Golspie
1890 Mackintosh, John, Proncy, Dornoch
1888 M'Lean, Donald, Rhives, Golspie
1844 Menzies, Duncan, Blairech, Lairg
1899 Miller, Wm., Balnakeil, Durness, Lairg
1874 Mitchell, James R., Culgower, Loth
1901 Mundell, C., Delny Farm, Delny
1901 Mundell, Walter, Dalchork, Lairg
1883 Shaw, James T., Gordonbush, Brora
1896 Trotter, William, Harvieston, Kinbrace

8.—BORDER DISTRICT.

EMBRACING THE

COUNTIES OF BERWICK, PEEBLES, ROXBURGH, AND SELKIRK.

BERWICK.

Admitted
1900 Aitchison, John, Lochton, Coldstream
1892 Aitchison, Wm., Kames, West Mains, Greenlaw
1901 Aitken, Captain John Christie, Nisbet, Duns
1900 Allan, John, of Peelwalls, Ayton
1897 Balfour, C. B., of Newton Don, Kelso
1906 Bell, Robt. Fitzroy, of Temple Hall, Coldingham
1893 Bertram, George William, Birkenside, Earlston
1874 Bertram, John, Addinston, Lauder
1898 Black, James, New Ladykirk, Norham-on-Tweed
1904 Blackadder, John W., Ninewell Mains, Chirnside
1885 Boswall, Sir G. Houstoun, of Blackadder, Bart., Chirnside
1891 Broomfield, George L., Solicitor, Lauder
1888 Brown, Colonel, of Longformacus, Duns
1893 Brown, Robert, Cammo Foundry, Duns
1900 Brown, Robert, Todlaw, Duns
1883 Brydon, Thos. T., Burncastle, Lauder
1884 Calder, T. A., Billie Mains, Chirnside
1872 Calder, W. A., Oxenrig, Coldstream
1880 Carmichael, John, Coldstream
1898 Carter, Thomas (Carter & Sons), Berwick-on-Tweed
1902 Cockburn, James, Knock, Duns
1889 Cookson, C. L. Stirling, of Renton, Grant's House
1872 Cowe, Peter, Old Castles, Chirnside
1901 Craw, James Hewat, West Foulden, Berwick-on-Tweed
1899 Darling, Alexander, Governor's House, Berwick-on-Tweed
1880 Darling, Thomas, 1 Palace Street East, Berwick-on-Tweed
1896 Davison, Robert, Harcarse, Duns
1882 Dickenson, Robert, Longcroft, Lauder
1899 Dickinson, William Bell, Longcroft, Lauder
1891 Dodds, Robt., Blackadder Bank, Chirnside
1898 Doughty, James T. S., Ayton
1898†Dunglass, Lord, Springhill House, Coldstream
1887 Dykes, Thomas, Press Mains, Reston
1889 Edington, William, Woodend, Duns
1854 Elder, W., Implement Works, Berwick-on-Tweed
1900 Elliot, David P., Nesbit Hill, Duns
1893 Elliot, Frank, Middlestots, Duns
1884 Elliot, Walter, Harehead, Duns
1907 Erskine, Thos., Cross Keys, Eyemouth
1882 Ferguson, J., Duns Castle Estate Office, Duns
1898 Fleming, John, Craigsford Mains, Earlston

Admitted
1898 Fleming, John, jun., Bowerhouse, Oxton, Lauder
1897 Forrest, Robt. Jack, Stewartslaw, Edrom
1884 Fulton, John, Hatchednize, Coldstream
1878†Gibb, Robert Shirra, Boon, Lauder—*Free Life Member*, 1885
1900 Gibson, John, Solicitor, Duns
1893 Gillies, John, Edington Mills, Chirnside
1882 Gilroy, James, Berwick-on-Tweed
1907 Gray, Charles, Northburn, Eyemouth
1894 Grieve, Andrew, Flass, Gordon
1885 Grieve, James, Rumbletonlaw, Greenlaw
1892 Haldane, Fred., 71 Ravensdowne, Berwick-on-Tweed
1898 Hardy, George, Old Cambus, Cockburnspath
1898 Hardy, William, jun., Harpertown, Kelso
1903 Henderson, George, East Morriston, Earlston
1881 Herbertson, Robert H., Fans, Earlston
1906 Hogarth, Walter T., Castleview, Berwick
1893 Hogg, George, Horsely, Reston
1892 Hogg, Robert, Fireburn Mill, Coldstream
1900 Holme, Chas. H., of Rathburne, Duns
1860†Home, Right Hon. the Earl of, The Hirsel, Coldstream
1895 Home, David William Milne, of Wedderburn, Caldra, Duns
1880 Hood, James, Linhead, Cockburnspath
1900 Hood, John, Mid-Edrom, Edrom
1895 Hood, T., F.S.I., High Street, Coldstream
1879 Hope, A. Peterkin, of Sunwick, Berwick
1906 Hope, Cecil Arthur, Chapel-on-Leader, Earlston
1886 Hope, Col. Charles, of Cowdenknowes, Earlston
1876 Hunter, Jas., of Antonshill, Coldstream
1898 Inch, John, Quixwood, Grant's House
1893 Johnstone, Robert Fender, Law House, Coldingham
1886 Laurie, John H., Hardens, Duns
1884 Leadbetter, H. M., Legerwood, Earlston
1907 Little, Jack, Stainrigg, Coldstream
1859 Lockie, William, Choicelee, Duns
1884 Logan, Adam S., Ferney Castle, Reston
1893 Lyal, Alex., Greenknowe, Gordon
1905 Lyal, Robt., Cammerlaws, Gordon
1884 Lyal, William, Edington Mains, Chirnside
1898 M'Bain, Alexander, Implement Dealer, Coldstream
1886 M'Creath, H. G., Berwick-on-Tweed
1907 Macdonald, A. D., Lennel, Coldstream
1901 M'Dougal, Arthur Robert, Blythe, Lauder
1898 M'Dougal, George, Bassendean, Gordon
1893 M'Dougal, James, Eccles Tofts, Greenlaw
1893 M'Dougal, John, Lylestone, Lauder

Admitted
1881 Mack, Joseph, of Berrybank, Reston
1893 Mackay, John, Wyndhead, Lauder
1906 Mather, Arthur, Milne Graden, East Mains, Coldstream
1905 Mather, J. C., Ellenford, Duns
1906 Mather, Matthew, Printonan, Duns
1906 Mather, William, West Mains, Milne Graden, Coldstream
1907 Menzies, Lt.-Col. C. T., Kames, Coldstream
1894 Michael, Reginald Warburton, Crosbie, Earlston
1884 Middleton, Hilton, Kimmerghame Mains, Duns
1898 Middleton, William, Cocklaw, Ayton
1898 Mill, George, Hyndsidehill, Gordon
1898 Milne, Robert P., Spital Mains, Berwick-on-Tweed
1898 Milne, Wm., Foulden Newton, Berwick-on-Tweed
1903 Mitchell-Innes, A. Harold, of Whitehall, Chirnside
1898 Murray, James, Brockholes, Grant's House
1898 Murray, Thomas, Brockholes, Grant's House
1880 Nisbet, George, Rumbleton, Greenlaw
1870 Nisbet, James, of Lambden, Greenlaw
1901 Paterson, D. T., Sinclair's Hill, Duns
1905 Peters, J. S. (J. R. Black & Co., Ltd.), Berwick-on-Tweed
1906 Porteous, Andrew M., Solicitor, Coldstream
1880 Porteous, James, Solicitor, Coldstream
1898 Purdie, Adam, Cranshaws, Duns
1878†**Reay**, The Right Hon. Lord, Carolside, Earlston
1898 Roberts, Harry L., Chapel-on-Leader, Earlston
1892 Robertson, William, Blinkbonny, Earlston—*Free Life Member*
1899 Scott, J., Oil Mills, Berwick-on-Tweed
1892 Sellar, P., The Crooks, Coldstream
1894 Shepherd, David, Hardies Mill Place, Kelso
1890 Smith, Andrew, of Whitchester, Duns
1880 Somervail, J. A., Broomdykes, Chirnside
1874 Stephenson, Richard, Chapel, Duns
1898 Stephenson, Thomas, Kidshielhaugh, Duns
1898 Stokoe, Thomas, Tweed Iron Works, Berwick-on-Tweed
1884 Swan, Robert G., Shawbraes, Reston
1880 Swinton, J. L. Campbell, of Kimmerghame, Duns
1899 Taylor, J. P. Ross, Mungo's Walls, Duns
1899 Thomson, Ralph, Merchant, Sandgate, Berwick-on-Tweed
1885 Thomson, Samuel, Buxley, Duns
1898 Torrance, Thomas, Hutton Hall, Barns, Hutton, Berwick
1906 Tullock, A., Brow of the Hill, Berwick-on-Tweed
1894 Turnbull, George Gillon, of Abbey St Bathans, Grant's House
1884 Tweedie, David, Nether Howden, Lauder
1884†**Tweedmouth**, Lord, Hutton Castle, Berwick-on-Tweed
1893 Usher, Frederick, Broomhouse, Duns
1894 Watson, J. M., Bassendean House, Gordon
1898 Webster, John, Edrom-Newton, Edrom
1885 Welsh, Alex., Seedsman, Coldstream
1900 Wight, James, Greenwood, Grant's House
1889 Wilkie, James Bruce, of Foulden, Berwick
1898 Wilson, James H., Crumstane, Edrom

Admitted
1900 Wilson, Philip, Corn Factor, Duns
1864 Wood, James, Janefield, Lauder
1906 Wright, A. T., Causway Bank, Reston
1885 Wright, Hugh, Blackburn, Cockburnspath
1905 Wylie, Alexander, Pathhead, Cockburnspath
1874 Wyllie, James, Pathhead, Cockburnspath

PEEBLES.

1902 Ainslie, John, Estate Office, Stobo
1898 Balfour, F. R. S., Dawyck House, Stobo
1905 Ballantyne, Sir Henry, Provost of Peebles
1905 Ballantyne, Henry Norman, Caerlee, Innerleithen
1884 Ballantyne, William, Wormiston, Eddleston
1872 Brown, Wm., Elderscroft, Springhill,
1906 Brownlee, R. C., Hundleshope, Peebles
1906 Brydon, Adam, Tweedbank, Innerleithen
1905 Cairns, Andrew, Live Stock Salesman, Peebles
1898 Caverhill, J. M., Manor, Peebles
1902 Clark, R., Gosland, Biggar
1898 Clarkson, Alexander, Skirling Mill, Biggar
1898 Clarkson, Robert, Burnetland, Broughton
1892 Constable, George W., Traquair Estate Office, Innerleithen
1899 Cunningham, Captain John, yr. of Leithenhopes, Innerleithen
1894 Davidson, Alexander, Ladyurd, Dolphinton
1874 Dickson, W. L., Drumelzier Haugh, Biggar
1905 Douglas, George, Earlypier, Eddleston
1906 Dyer, James, Haystoun, Peebles
1884 Dyson, F. W., Chapelhill, Peebles
1874†**Elibank**, Right Hon. Lord, Darn Hall, Eddleston
1905 Elibank, Master of, M.P., Juniper Bank, Walkerburn
1884 Ellis, John, Laverlaw, Peebles
1887 Erskine, Rear-Admiral James E., of Venlaw, Peebles
1882 **Fergusson**, Sir James R., of Spitalhaugh, Bart., West Linton
1906 Forrest, Allan, Whitfield, West Linton
1906 Gairns, Alex. C., Cloverhill, Broughton
1905 Galbraith, Adam, Rachan Mill, Broughton
1881 **Gibson-Carmichael**, Sir T. D., of Skirling, Bart., Malleny House, Balerno
1876 Gordon, Charles, of Hallmyre, Lamancha
1884 Gracie, Charles A., Easter Happrew, Stobo
1905†**Hay**, Sir Duncan E., of Haystoun, Bart., Kingsmeadows, Peebles
1906 Inglis, Geo. C., V.S., Tantah House,
1894 Jack, George, Netherwood, Dolphinton
1905 Johnston, John C., V.S., Peebles
1905 Laidlaw, David, Hallamyre, West Linton
1905 Linton, Simon, jun., Posso, Peebles
1907 Mackenzie, Kenneth, of Dolphinton (19 Ainslie Place, Edinburgh)
1898 Marshall, H. B., of Rachan, Broughton
1906 Martin, William, Dawyck Mill, Stobo

Admitted
1905 Masterton, Ebenezer B., Broughton Green, Broughton
1885 Maxwell, James, Eddleston Bank, Eddleston
1905 Mitchell, Andrew D., West Loch, Eddleston
1906 Montgomery, Richard, Home Farm, Lamancha
1906 Paterson, Tom, Crookstone, Peebles
1906 Paterson, Wm., Crookstone, Peebles
1906 Paterson, Wm., Felton, Dolphinton, Peeblesshire
1898 Patrick, James, Mailingsland, Peebles
1907 Philipson, Hylton, of Stobo, Peeblesshire
1898 Purdie, James G., Hamildean, Stobo
1881 Ritchie, G. D., Chapelgill, Broughton
1905 Ritchie, Wm. C., Lyne Farm, Stobo
1906 Robertson, Jas. Morton, Portmore, Eddleston
1898 Russell, William, Bonnington, Peebles
1906 Somerville, John, of Portmore, Eddleston
1906 Stewart, B., Darnhall Mains, Eddleston
1851 Stewart, James, Scotston House, Dolphinton
1880 Stodart, Thomas Tweedie, of Oliver, Broughton
1890 Tennant, Sir Edward P., of The Glen, Bart., Innerleithen
1886 Thorburn, M. G., of Glenormiston, Innerleithen
1898*THORBURN, Sir Walter, of Glenbreck, Kerfield, Peebles
1889 Thorburn, William, Craigerne, Peebles
1905 Thorburn, Wm., Hearthstanes, Tweedsmuir
1906 Tudhope, B., Milkieston, Eddleston, Peebles
1906 Tudhope, James, Nether Falls, Eddleston
1898 Tudhope, J., Broughton Place, Broughton
1898 Tudhope, William, Milkieston, Eddleston
1905 Watson, John, Muirburn, Biggar, Peebles
1906 Watson, Robert, South Park, Peebles
1907 Weir, Thos., Robinsland, West Linton
1878 Williamson, Miss Katharine Isabella, of Cardrona, Peebles
1884 Wilson, James, West Mains, Dolphinton
1860 Woddrop, W. A., of Garvald, Dolphinton

ROXBURGH.

1898 Anderson, Robert B., of Glenburn Hall, Jedburgh
1862 Arras, Walter, Beechwood, Melrose
1884 Ballantyne, David, Shaws, Newcastleton
1898 Ballantyne, R., Ormiston House, Hawick
1860 Ballingall, George, Clarilaw, St Boswells
1898 Balmer, William, Smailholm House, Kelso
1906 Batters, Walter P., Rawflat, Ancrum
1886 Beattie, John, Braidlie, Newcastleton
1906 Bell, David, Primside. Kelso
1898 Bell, John A., Ploughlands, St Boswells
1885 Bell, William Scott, yr. of Woll, Hawick
1906 Beveridge, Henry E., Kerchesters, Sprouston
1901 Blinkhorn, John F., Stirches, Hawick
1889 Boyd, Andrew, F.R.C.V.S., Melrose
1863 Boyd, W. B., of Faldonside, Melrose

Admitted
1894 Brock, Hugh B. P., Faughhill, St Boswells
1898 Brotherstone, Andrew, Muirdean, Kelso
1880 Brown, J., Hundalee, Jedburgh
1884 Brown, James, Copland, Ancrum
1906 Brown, William, Kersmains, Roxburgh
1906 Brown, William, Auction Market Co., Ltd., Biggar
1903 Brownlee, John, Smailholm Mains, Kelso
1889 Bruce, John, Easter Langlea, Galashiels
1906 Bruce, Robert, Sunnyside, Jedburgh
1866 Brunton, James, Broomlands, Kelso
1862 Brydon, Adam, Netherbarns, Galashiels
1905 Campbell, P. P., Estate Office, Mertoun, St Boswells
1871 Caverhill, John, Jedneuk, Jedburgh
1867 Charlton, M., jun., Browndeanlaws, Jedburgh
1906 Clark, Geo. B., Marchcleugh, Kelso
1897 Cochrane, Wm. E. A., Roansgreen, Newcastleton
1893 Cree, William, Whitelee, St Boswells
1872 Croall, John, Coach Works, Kelso
1884 Cunningham, Robt., Branxholme House, Hawick
1906 Curle, Robt. Andrew, of Overwells, Jedburgh
1888†DALKEITH, The Earl of, Eildon Hall, St Boswells
1906 Davidson, Alexander, jun., Whitton, Kelso
1898 Davidson, Andrew, Auctioneer, Melrose
1899 Davidson, Gilbert, Barnhills, Minto, Hawick
1898 Davidson, Mark Turnbull, Melrose
1898 Davidson, Richard, Swinnie, Jedburgh
1863 Dodd, James, Hundalee Cottage, Jedburgh
1904 Douglas, Allan M., Spots Mains, Kelso
1898 Douglas, Andrew, Riccalton, Jedburgh
1893 Douglas, Captain Edward Palmer, of Cavers, Hawick
1889 Douglas, Francis, Caverton, Roxburgh
1871 Douglas, George, Upper Hindhope, Jedburgh
1867 Douglas, George Sholto, 5 Abbotsford Grove, Kelso
1906 Douglas, John, Ancrum West Mains, Ancrum
1906 Douglas, John, Swinside Townfoot, Jedburgh
1906 Douglas, Thos., Ruletownhead, Hawick
1906 Douglas, Walter S., Hindhope, Jedburgh
1898 Dove, George, Whitehouse, St Boswells
1898 Dunn, David, Roxburgh Mains, Roxburgh
1876 Dunn, John, Parkside, Kelso
1880 Elliot, James, of Flex, Hawick
1893 Elliot, John, Hindhope, Jedburgh
1884 Elliot, Robert, Hermitage, Newcastleton
1874 Elliot, Robert Henry, of Clifton Park, Kelso
1906 Elliot, Robt. T., Chatto, Kelso
1893 Elliot, Thomas, Attonburn, Kelso
1905 Elliot, Thomas, Kirndean, Newcastleton
1893 Elliot, Thomas Robert Barnewall, yr. of Clifton Park, Kelso
1907 Elliot, Walter, Kirndean, Newcastleton
1898 Elliot, Wm., Bulchercote, St Boswells
1903 Elliot, Wm. Irving, Kirndean, Newcastleton
1906 Ewing, Ian Alastair, West Nisbet, Ancrum, Jedburgh
1884 Fairbairn, J. J., of Fens, St Boswells
1895 Fleming, Charles J. N., St Bede's, Melrose
1905 Fleming, Hugh, Longnewton, St Boswells

Admitted
18 4 Fleming, John, Roan, Newcastleton
1893 Forsyth, Robert, New Smailholm, Kelso
1906 Fraser, Charles, St Helens, Melrose
1894 Goodfellow, A., High School, Kelso—*Free Life Member*
1899 Gowans, Major J., Kirkton House, Hawick
1906 Greig, Major J. L., of Eccles, Kelso
1884 Grierson, Robert, Whitechesters, Hawick
1878 Grieve, C. J., of Rashiegrain, Branxholm Park, Hawick
1907 Grieve, Chas. Walter, Branxholm Park, Hawick
1907 Grieve, Robert, Branxholme Braes, Hawick
1890 GRIFFITH, Sir Richard Waldie, of Hendersyde Park, Bart., Kelso
1895 Haddon, Andrew, Honeyburn, Hawick
1880 Haddon, Walter, Solicitor, Hawick
1884 Hall, David, Larriston, Newcastleton
1906 Hamilton, Gavin, Highridgehill, Kelso
1897 Hart, Andrew D., The Flatt, Kershopefoot, Carlisle
1892 Hay, Athole S., of Marlfield, Roxburgh
1880 Henderson, Robert, Mount-hooly, Jedburgh
1900 Hilson, Sydney, Solicitor, Jedburgh
1862 Hobkirk, James, St Bede's, Melrose
1901 Hogarth, James, Prior Bank, Kelso
1898 Hogarth, John, Heiton Mill, Kelso
1895 Hogarth, William Gray, Linton, Bankhead, Kelso
1898 Hogg, John, jun., Dalbiac Cottage,
1898 Holliday, John, Dinlaybyre, Newcastleton
1898 Home, J. H. Milne, Broomlands, Kelso—*Free Life Member*
1875 Howatson, J. L., Greenriver, Hawick
1895 Hutcheson, William, Courthill, Kelso
1889 Hutton, John, V.S., Kelso
1907 Inglis, Wm., Kedslie, Earlston
1907 Irvine, Chas. Sturrock, Seedsman, Jedburgh
1906 Johnston, James S., Kersknowe, Kelso
1887 Johnston, John S., Crailinghall, Jedburgh
1889 Johnston, Wm. Lee, Oxnam Neuk, Jedburgh
1890 KARR, Sir Harry Seton, of Kippielaw, St Boswells
1896 Kennedy, William, Kinninghall, Hawick
1890 Kidd, Henry, Lowood, Melrose
1893 Laidlaw, James, Allars, Jedburgh
1863 Laing, George, Tweedbank, Kelso
1880 Laing, Thomas (Laing & Mather), Kelso
1880 Laing, Walter, Kersheugh, Jedburgh
1872 Laurie, Thomas, Ormiston Terrace, Melrose
1899 Lunn, John, Upper Blainslie, Lauder
1888 Macfarlane, James, Penchrise, Stobs, Hawick
1898 M'Laren, P., Fairnington, Roxburgh
1906 M'Tier, J. Cameron, Chapelhill, Hawick
1906 Martin, Hugh A., Estate Office, Mellerstain, Kelso
1893 Mather, R. V. (Laing & Mather), Kelso
1880 Maxwell, John, Coachbuilder, Kelso
1863 Mein, Ben., Roxburgh Barns, Roxburgh
1892 Mein, James A. W., of Hunthill, Jedburgh
1893 MINTO, The Earl of, Minto House, Hawick
1899 Mitchell, John Peace, Dryburgh Orchard, St Boswells
1886 Moffat, James, Whitehaugh, Hawick
1899 Monteath, George, Newtown, St Boswells
1880 Muir, John, Kaeside, Melrose
1863 Murray, John, of Wooplaw, Galashiels
1898 Murray, Wm. R., Charterhouse, Kelso
1860 Ogilvie, George, Holefield, Kelso
1906 Oliver, Andrew, Stodrig, Kelso
1886 Oliver, Andrew R., Thornwood, Hawick
1906 Oliver, Douglas, Hassendean Bank, Hawick
1889 Oliver, Geo. Lindsay, 13 Wilton Hill, Hawick
1897 Oliver, John, Lynwood, Hawick
1853 Oliver, Robert, of Blakelaw, Lochside, Kelso
1873 Oliver, William M., Whitriggs House, Hawick
1898 Paton, E. Douglas, Broomhill, Melrose
1889 Paton, Major James, of Crailing, Jedburgh
1899 Pearson, Thos. Smith, of Otterburn, Morebattle, Kelso
1863*†POLWARTH, Right Hon. Lord, Mertoun, St Boswells
1889 POLWARTH, The Hon. the Master of, Humbie House, Upper Keith
1898 Porteous, Ronald, Newtown, St Boswells
1895 Price, W. M., Minto Estates Office, Hawick
1884 Pringle, John, Nisbet, Ancrum
1893 Purdom, Finlay, Border Club, Hawick
1906 Purves, Wm., Kersquarter, Sprouston, Kelso
1898 Rae, James William, Colmsliehill, Galashiels
1856 Rawdin, Joseph, Chemist, Jedburgh
1872 Renwick, John, Nurseryman, Melrose
1894 Ritchie, D. N., of The Holmes, St Boswells
1893 Roberton, James, Morebattle Tofts, Kelso
1898 Roberton, John, Ladyrig, Roxburgh
1898 Roberton, R. A., Yetholm Mains, Yetholm, Kelso

1904 ROXBURGHE, The Duke of, Floors Castle, Kelso
1901 Russell, George Alex., Glen Douglas, Jedburgh
1906 Rutherford, Henry, of Fairnington, Roxburgh
1903 Rutherford, Walter, Crailing Tofts, Roxburgh
1884 Rutherfurd, W. E. Oliver, of Edgerston, Jedburgh
1888 SCOTT, Hon. J. C. Maxwell, of Abbotsford, Melrose
1898 Scott, Arthur Francis, of Howcleuch, Langlee, Jedburgh
1884 Scott, Chas., Milsington, Hawick
1898 Scott, James, Softlaw, East Mains, Kelso
1906 Scott, James, Troneyhill, Ancrum
1894 Scott, John, Borthaugh, Hawick
1898 Scott, John, Ploughlands, Ancrum
1906 Scott, John, Frogden, Kelso
1901 Scott, John Alex., Mossburnford, Jedburgh
1906 Scott, John M., Cessford, Kelso
1889 Scott, John Robson, of Newton, Jedburgh
1898 Scott, Robert C., Graden, Kelso
1890 Scott, Thos., Little Fordel, Melrose
1899 Scott, T. W. Robson, Letham, Jedburgh

Admitted
1903 Scott, Walter, Drinkstone, Hawick
1906 Scott, Wm. F., Spylaw, Kelso
1882 Scott-Makdougal, H. J. E., of Makerston, Kelso
1906 Shiell, Rutherford, Hassendean, Hawick
1899 Simson, Alexander Tudhope, Brewer, Melrose
1899 Simson, Thomas, Lilly Bank, Jedburgh
1888 Sinclair, C. G., Grahamslaw, Kelso
1879 Smith, James, Kelso
1893 Smith, James, St Boswells Bank, St Boswells
1880 Smith, John, Galalaw, Kelso
1888 Smith, J. R. C., Mowhaugh, Kelso—*Free Life Member*
1881 Smith, R. C., Ormiston, Roxburgh
1887 Smith, Thomas A., Bedrule, Jedburgh
1906 Smith, T. D. Crichton, Provost of Kelso
1887 Sprot, Lieut.-General John, of Riddell, Lilliesleaf
1907 Sprot, Lieut. J. M. F. (Royal Scots Greys), Riddell, Lilliesleaf
1897 Stevenson, Allan, Commercial Bank, Kelso
1906 Stirling, Wm., Darlingfield, Kelso
1898 STRATHEDEN and CAMPBELL, Lord, Hartrigg, Jedburgh
1906 Tait, David W. B., W.S., Edenside, Kelso
1893 Taylor, William, Ashybank, Hawick
1897 Teacher, Donald M., Gatehousecote, Hawick
1884 Templeton, Matthew, Sandyknowe, Kelso
1867 Thomson, A., of Mainhill, St Boswells
1904 Thomson, And. F., of Cowbog, Morebattle, Kelso
1899 Thomson, Thomas, Hopton, Ancrum, Jedburgh
1897 Thomson, W. H., Over Roxburgh, Roxburgh
1898 Tod, Wm., Blinkbonny, Kelso
1899 Tully, Alex. B., V.S., Kelso
1868 Turnbull, J., Eastfield, Kelso
1899 Turnbull, James, 8 Bridge Street, Kelso
1898 Turnbull, John, Sunlawshill, Kelso
1889 Turnbull, Mark, Melrose
1906 Turnbull, Walter, Hawickmill, Hawick
1863 Turnbull, W. Geo., Spittal, Jedburgh
1898 Turner, Francis R., Upper Nisbet, Ancrum
1872 Usher, Thomas, Courthill, Hawick
1900 Veitch, Arch., Cattle Salesman, Jedburgh
1880 Waddell, Alex., of Palace, Jedburgh
1898 Walker, Alex., Chemist, Jedburgh
1903 Watson, G. Scott, Easter Softlaw, Kelso
1898 Watson, John, Greatridge Hall, Kelso
1889 Watson, T. Lindsay, Briery Yards, Hawick
1886 Watson, Capt. W. S., of Burnhead, Hawick
1898 Wilson, Chas. John, Deanfield, Hawick
1899 Young, William, Halkburn, Galashiels
1894 Younger, Wm., Ravenswood, Melrose

SELKIRK.

Admitted
1866 Anderson, B. T. G., of Tushielaw, Selkirk
1889 Anderson, T. Scott, Ettrick Shaws, Selkirk
1906 Barrie, Walter, Sundhope, Yarrow, Selkirk
1863 Brown, Adam, Hyndhope, Selkirk
1899 Burns, James (George Burns & Sons, Engineers), Galashiels
1906 Calder, James, Craig Douglas, Selkirk
1880 Cochrane, A. L., of Kingsknowes, Galashiels
1889 Connochie, Thomas D., V.S., Galashiels
1901 Denny, William, Caddonlee, Clovenfords
1906 Dun, And., Laidlawstiel, Galashiels
1900 Elliot, And. Stirling, Hollybush, Galashiels
1869 Elliot, A. T., Newhall, Galashiels
1889 Elliot, John, Meigle, Clovenfords
1906 Elliot, Thomas, Blackhaugh, Clovenfords
1906 Elliot, Walter, Newhall, Galashiels
1878 Grieve, James Howden, Selkirk
1895 Hall, Robert, Kiln Knowe, Galashiels
1900 Hamilton, Jas., Philiphaugh Farm, Selkirk
1900 Hogarth, James, Miller, Galashiels
1895 Johnston, John, Chapelhope, Ettrick
1878 Laidlaw, Robert, Rodono, Selkirk
1878 Lang, Robert J., Broadmeadows, Selkirk
1906 Lillie, George, Ladhope, Selkirk
1878 Lindsay, John V., Whitehope, Selkirk
1901 Lindsay, William, South Common, Selkirk
1896 Linton, Andrew, Oakwood, Selkirk
1873 Linton, Simon, Oakwood, Selkirk
1880 Mitchell, Thomas, Howford, Selkirk
1884 Morton, Thomas, Torwoodlee, Galashiels
1889 Noble, Robert, of Borthwickbrae, Hawick
1897 Ovens, Wm. R., of Peel, Clovenfords
1885 Plummer, Chas. H. S., of Sunderland Hall, Selkirk
1906 Pott, Jas. Gideon, of Potburn, Ettrick, Selkirk
1906 Pringle, J. Lewis, of Torwoodlee, Galashiels
1906 Roberts, Alexander F., of Fairnalee, Selkirk
1881 Rodger, George, Bridgelands, Selkirk
1880†Scott, John, of Gala, Galashiels
1881 Scott, John Corse, of Synton, Hawick
1906 Somerville, Wm., Fairnalee, Selkirk
1907 Stalker, Donald G., The Hall, Galashiels
1896 Steedman, John, County Clerk, Selkirk
1906 Steel, Samuel Strang, Philiphaugh, Selkirk
1905 Steel, Wm. Strang, of Philiphaugh, Selkirk
1880 Turnbull, James, The Glebe, Selkirk
1898 Wilkie, John, 21 Island Street, Galashiels

ENGLAND.

Admitted
1899 Abram, Laurence, County School, Llandilo, So. Wales—*Free Life Member*
1882 Ainslie, John, Milton Court Farm, Eastbourne, Sussex
1902 Alder, Thomas Bogue, New Etal Grange, Cornhill-on-Tweed
1855 Alexander, John, Moreton House, Cheltenham
1900 Allison, Herbert W., c/o Mr Short, Home Farm, Ingestre, Stafford—*Free Life Member*
1893 Allison, Hubert, Tickford Priory, Newport Pagnell, Bucks
1873 ANCASTER, The Earl of, Normanton Park, Stamford
1902 Anderson, George, 3 Spencer Place, Leeds
1850 Anderson, Robert Hood, Devonshire Club, London
1863 Angus, John, Whitefield, Morpeth
1895 Annand, John F., Agricultural College, Newcastle-on-Tyne—*Free Life Member*
1896 Anstruther, Arthur W., Hillside, Hook Heath, Woking
1864 Archer, Thomas, Woodlands Laurie, P.R., Sydenham, London
1897 Ashby, S. F., 110 Liverpool Road, Birkdale, Southport—*Free Life Member*
1873 Ashdown, A. H., Uppington, Wellington, Salop—*Free Life Member*
1883 Aveling, T. L., Rochester
1901 Bainbridge, Thomas H., Eshott Hall, Felton, Northumberland
1900 Baird, Colonel E. W., Exning House, Newmarket
1875 Baird, Hugh, Woodleigh, The Park, Cheltenham
1890 Bamford, Henry, jun., Leighton Iron Works, Uttoxeter
1899 Barber, Robert, African Chambers, 19 Oldhall Street, Liverpool
1900 Barclay, John, Junior Constitutional Club, Piccadilly, London
1895 Barford, James G. (of Barford and Perkins), Peterboro
1880 Barrett, Robert Bell, Skipton Castle, Skipton
1896 Barron, James, Heathcote Farm, Warwick—*Free Life Member*
1899 Beattie, James C., Aikton House, Wigton, Cumberland
1898 Bell, J. P. F., Fulforth, Witton Gilbert, Durham
1871 Bell, William, Bridge House, 181 Queen Victoria Street, London, E.C.
1898 Bell, William, Ratcheugh, Alnwick
1884 Benson, R. A., Duchy of Cornwall Office, Liskeard, Cornwall—*Free Life Member*
1900 Bickerton, Henry N., National Gas Engine Co., Ltd., Ashton-under-Lyne
1882 Bigg, Thomas, Great Dover Street, London
1885 Birch, W. de Hoghton, Hoghton Estate Office, Walton Hall, Preston—*Free Life Member*
1902 Blackshaw, John F., Midland Dairy School, Kingston, Kegworth

Admitted
1893 Blackstone, Edward Christopher (Blackstone & Co., Limited), Stamford
1875 Blackwood, Alex., Estate Office, Leadenham, Lincoln
1900 Blagg, Ernest W. H., Greenhill, Cheadle, Staffordshire
1901 Blake, Charles E., 36 Worship Street, London, E.C.
1883 Bonallo, W. C., Estate Office, Locko Park, near Derby
1858 Borthwick, W. H., East Kyloe, Beal, Northumberland
1875 Brotchie, G., Grinkle, Loftus, R.S.O.
1877 Brown, John, Morden Farm, Hertford
1873 Browne, Colvile, M.R.A.C., Hungarton, nr. Leicester—*Free Life Member*
1884 Brydon, John, Seed Merchant, Darlington
1873 Brydon, Robert, The Dene, Seaham Harbour—*Free Life Member*
1875 Bullock, Matt., 48 Prince's Gate, London, S.W.
1896 Burkitt, William, Grange Hill, Bishop Auckland—*Free Life Member*
1903 Burlingame, C. H. (International Harvester Co., Ltd.), 115 Southwark Street, London, S.E.
1865 Burns, James Cleland, 6 Airlie Gardens, London, W.
1877 Burr, John M., 37 London Road, Chelmsford, Essex
1901 Burr, J. M., Oaklands Estate Office, St Albans, Herts
1894 Burrell, Charles, Thetford, Norfolk
1900 Burton, John H., County Education Office, Weston-super-Mare—*Free Life Member*
1878 Cameron, H. E., 42 Cromwell Avenue, Highgate, London
1863 Campbell, A. H., Cornwall Gardens, London, S.W.
1895 Campbell, Henry A., 97 Eaton Square, London, S.W.
1882 Campbell, Rear-Admiral H. J. Fletcher, C.B., Beech Lodge, Wimbledon Common
1895 Campbell-Gilmour, T., Cummersdale, Carlisle
1894 CARLISLE, Countess of, Naworth, Brampton, Cumberland
1878 Carr, Robert, Grindon, Norham, Northumberland—*Free Life Member*
1898 Carr-Ellison, J. S., 24 Sanderson Road, Jesmond, Newcastle-on-Tyne
1887 Carrington, George, M.R.A.C., Missenden Abbey, Great Missenden, Bucks—*Free Life Member*
1882 Carruthers, Joseph, 29 Victoria Road, Upper Norwood, London, S.E.
1877†CECIL, Lord Arthur, The Mount, Lymington, Hants
1884 Chambers, T. W., Causeway Head, Silloth, Carlisle
1884 Clark, J. M., Featherstone Castle, Haltwhistle
1873 Clark, Wm., 2 Victoria Embankment, Darlington

Admitted

1881 Clark, W. A., 12 Onslow Sq., London, S.W.

1893 Clarke, Thomas, Eskmeals, Bootle, S.O., Cumberland

1884 Clinton, H. E. Pelham, 1 Lion Place, Borthwick Hill, Bath—*Free Life Member*

1899 Cole, James Thomson, Fell Court, Torquay—*Free Life Member*

1896 Combe, J. Scarth, Broomhill Grange, Edwinstowe, Newark

1903 Cooper, Sir George A., Bart., 26 Grosvenor Square, London

1905 Cooper, Sir R. P., Bart., Shenstone Court, Lichfield

1877 Corbett, T., Perseverance Iron Works, Shrewsbury

1900 Coulter, Chas. M. (W. A. Wood, M. & R. M. Co.), 36 Worship Street, London, E.C.

1891 Coward, T. A., c/o The Manager, London City and Midland Bank, Northallerton—*Free Life Member*

1890 Crabtree, Henry, Moss House, Heywood—*Free Life Member*

1875 Craig, H. V. Gibson, c/o W. Birch Reynardson, Ardwell House, Tetsworth, Oxon.

1882 Craig, Robert, Crondon Park, Billerican, Essex

1860 Crawford, Daniel, Potterells Farm, Hatfield, Herts

1898 Crawford, Lionel W., Kiveton Hall, Sheffield

1903 Creighton, T. R. (Thos. Reay), Abbey Town, Carlisle

1896 Crombie, Walter G., Junior Constitutional Club, Piccadilly, London, W.

1898 Crossman, L. Morley, Goswick, Beal, R.S.O., Northumberland

1876 Cruickshank, J. W., Coombe Head, Haslemere, Surrey

1868 Cruikshank, Edward G., Shrublands, Graffham, Petworth, Sussex

1898 Cryer, John, 182 Cliff Wood Mount, Bradford Road, Shipley Yorks—*Free Life Member*

1882 Cunningham, T. D. S., Penally Abbey, Penally, R.S.O., South Wales

1900 Curr, David, Red House, Carlisle

1906 Curr, James, Red House, Carlisle

1896 Daine, Mrs (*née* Fraser), Rupert Farm, Huyton, Liverpool—*Free Life Member*

1894 Daine, Herbert S., Woolfall Hall, Huyton, Liverpool—*Free Life Member*

1895 Dallas, James, 8 Heworth Green, York

1890 Davidson, William, Cattle Salesman, Cornhill-on-Tweed

1906 Davidson, William, East Learmonth, Cornhill-on-Tweed

1895 Davidson, William, Margam, Port Talbot, So. Wales—*Free Life Member*

1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire—*Free Life Member*

1902 Davis, J. F., Osborne Piano Co., Ltd., 115 Southwark Street, London, S.E.

1907 Dawkins, Chas. W., 54 & 55 Bunhill Row, London, E.C.

1859 Dawson, J., Ivy House, Welshpool, Montgomeryshire

1901 Dawson, Robert Alexander, St Mary's, Talacre, Prestatyn, N. Wales

1886 Dickson, Thos. A., Estate Office, Overstone Park, Northampton—*Free Life Member*

1895 Dixon, Albert Alex., Tanwood House, Chaddesley Corbett, near Kidderminster, Worcestershire—*Free Life Member*

1895 Dobbie, Æmilius S., Trench, Troubridge, Kent

Admitted

1880 Dollar, T. A., V.S., 56 New Bond Street, London

1871 Donne, Henry, Leek Wootton, Warwick

1885 Douglas, Wm., Baltic Works, Wharf, Putney, London, S.W.

1862†Dudgeon, John Scott, Sevenoaks, Tunbridge

1879 Duncan, John, Manor Farm, Middleton, King's Lynn

1882 Duncan, John W., Coldrey, Bentley, Farnham, Surrey

1871 Eden, Henley, Woodstock, Ascot, Berks

1895 Egginton, Arthur, 11 St Michael's Road, Bedford

1875 ELLESMERE, The Right Hon. the Earl of, Worsley Hall, Manchester

1873 Elliot, Prof. Thos. J., The Pebbles, Glebe Lands, Hunstanton, Norfolk—*Free Life Member*

1882 Ensor, Thos. H., 54 South Street, Dorchester—*Free Life Member*

1882 Esson, Robert, Zenda Cottage, Ashtead, Surrey

1902 Eve, H. Trustrum, F.S.I., 2 St Paul's Square, Bedford

1900 Fairbairn, John, Walker Heads and Middle Quarter, Norham-on-Tweed

1887 Farquharson, Alexander, Copperfield, Clifton-on-Teme, Worcestershire

1894 Fielding, J. B., Downing, Holywell, North Wales

1870 Finlay, Kirkman, 6 Marlborough Buildings, Bath

1897 Fitzherbert, W., Nettleworth Manor, Mansfield, Notts

1891 Fleet, Wilfrid J., Imatra, King's Road, Bournemouth—*Free Life Member*

1864 Fleming, James, Henney, Barway, Ely, Cambs

1903 Fleming, James, Redkirk, Rigg, Carlisle

1901 Foden, Edwin, Elworth Works, Sandbach

1891 Forbes, A. C., Armstrong College, Newcastle-on-Tyne—*Free Life Member*

1906 Fox-Brockbank, A. H., The Croft, Kirksanton, Cumberland

1903 Freeman, Daniel Linford, Home Farm, Aughton, Liverpool

1888 Galashan, Alfred, St Swithin's, Barkingside, Ilford, Essex

1892 Gascoigne, Major R. F. T., Letherton Hall, Aberford, Leeds

1879 Gibson, J. G., 1 Vanburgh Park, Blackheath, London

1889 Gilchrist, D. A., Armstrong College, Newcastle-on-Tyne—*Free Life Member*

1882 Gilkes, Gilbert, Canal Iron Works, Kendal

1903 Gillanders, A. T., Forester, Alnwick Castle, Alnwick

1878 Glendinning, G. P., 29 Collingham Road, London, S.W.

1873 Goddard, H. R., Hammet Street, Taunton, Somerset—*Free Life Member*

1903 Gooch, Sir Thomas V. S., Bart., Benacre Hall, Wrentham, Suffolk

1893 Gordon, A. A., The Croft, Farningham, Kent

1875 Gordon, W. R. G., Barsham Lodge, Sandown, Isle of Wight

1866 Gough, William, Land Agent, Wykeham

1881 Gover, L. D., Clay Point, Flushing, Falmouth—*Free Life Member*

1886 Gow, George, Tregothnan Office, Truro

1901 Gower, Cecil Leveson, Bletchingly, Surrey

1881 Graham, George, Moat Farm, Much Hadham, Herts

1873 Graham, Robert G., Beanslands Park, Irthington, *viâ* Crosby-on-Eden, Carlisle

Admitted
1888 Graham, William, Eden Grove, Kirkbythore, Penrith
1882 Grahame, Thomas, 26 Granard Road, Balham, London, S.W.
1890 Granger, John, Oddington, Stow-on-the-Wold
1887 Grant, Henry O., of Grant, Caledonian Club, Charles Street, London, S.W.
1897 Gray, John, New Club, Cheltenham
1895 Greenwood, Thomas P., M.D., B.Sc., County Asylum, Radcliffe, Nottingham—*Free Life Member*
1899 Grieve, Wm. O., Amersite Law, Belford, Northumberland
1892 Griffen, Hugh Reid, 1 Finsbury Square, London, E.C.
1897 Guthrie, P. H., B.Sc., c/o Dr Guthrie, 7 Church Road, Tunbridge Wells—*Free Life Member*
1898 Gwillam, Robert, Agricultural College, Aspatria—*Free Life Member*
1898 Hacking, Thomas, Agricultural School, Bijods Hall, Dunmow, Essex—*Free Life Member*
1890 Hadden, Gavin, Levant Lodge, Earls Croome, Worcester
1864 Halkett, Lieut.-Col. J. C., Junior Carlton Club, London
1877 Hall, T. F., Billiter Buildings, Billiter Street, London, E.C.
1867 Hallen, Vety. Lieut.-Col., F.R.S.E., F.R.C.S.E., Pebworth Fields, Stratford-on-Avon
1883 Hamilton, H. W., Willey Park Estate Office, Dawley, Salop—*Free Life Member*
1888 Handley, John, Greenhead, Milnthorpe
1884 Hardy, C. W. L., Gittisham, Honiton—[illegible]
1897 Harrison, George, The Hall, Gainford, Darlington
1895 Harrison, John, Chatsworth House, Carlisle
1875 Haughton, W. H., Highlands, Gt. Barford, St Neots
1887 Haviland, W. A., Brightling Place, Brightling, Sussex
1883 Hayward, C. P., Beaumont Manor, Lincoln
1878 Henderson, John, Kingsmere, Harpenden, Herts—*Free Life Member*
1854 Henderson, Thos., Hastings Cottage, Seaton Delaval, Newcastle-on-Tyne
1881 Henderson, W., East Elrington, Haydon Bridge, Carlisle—*Free Life Member*
1896 Hewison, Robert, Agricultural College, Aspatria—*Free Life Member*
1899 Hewitt, Thomas G., M.R.C.V.S., 22 Dorset Street, Baker St, London, W.
1873 Hill, A. J., St Keverne, Harrow-on-the-Hill—*Free Life Member*
1894 Hill, Henry F., Agricultural College, Aspatria—*Free Life Member*
1897 Hill, J. Smith, Principal, Agricultural College, Aspatria
1902 Hobbs, James T., Maisey Hampton, Fairford, Gloucestershire
1878 Holliday, Jonathan, Kirkbampton, Carlisle
1878 Holliday, Wm., North View, Kirkbampton, Carlisle
1882 Holm, Alex., Lawrence's Farm, Buckland, Betchworth, Surrey
1886 Hooper, C. H., Church House, Shoreham, Sevenoaks, Kent—*Free Life Member*
1878 Hope, John W., John Knight & Sons, Ltd., The Royal Primrose Soap Works, Silvertown, London, E.
1878 Hornsby, J., Spittalgate Ironworks, Grantham

Admitted
1903 Howard, Henry Charles, Greystoke Castle, Penrith
1898 Howard, J. H., Britannia Iron Works, Bedford
1879 Hunt, A. E. Brooke, Merton Grange, Slough, Bucks—*Free Life Member*
1898 Hunter, Chas. E., Wemmergill, Middleton-in-Teesdale
1895 Hurley, George, County Technical Office, Stafford—*Free Life Member*
1883 Hutchinson, Alan, 30 Church Street, Durham
1892 Inglis, A., Estate Office, Howcaple Cottage, Ross-on-Wye, Herefordshire—*Free Life Member*
1888 Inman, A. H., care of Glyn, Mills, Currie, & Co., 67 Lombard Street, London, E.C.—*Free Life Member*
1895 Irving, John, Mossband, Rockliffe, Carlisle
1893 Irwin, Colonel T. A., Lynehow, Carlisle
1899 Jefferson, J., Peel Hall, Chester
1899 Johnstone, Wentworth Hope, Polebrook, Edenbridge, Kent
1893 Jones, C. B., Durham College of Science, Newcastle-on-Tyne—*Free Life Member*
1876 Keith, Lieut.-Col. Jas., Capel Hall, Frimley, Ipswich
1894 Kennaway, David, The Farm, Cramlington, Northumberland
1875 Kennedy, W., Lewes and County Club, Lewes—*Free Life Member*
1883 Kenyon, J. W., Cecily Hill, Cirencester
1869 Kerr, James, Ashford, Kent
1902 Kerr, John, Loudwater, Rickmansworth, Herts
1874 Kidd, H., F.R.C.V.S., Exmouth, Devon
1894 Laidlaw, Percy O., Stonecroft, Fourstones, R.S.O.
1881 Lang, Hugh, Brackley, Northamptonshire
1864 Latta, Mathew Rodger, Redbury, Ardleigh, Essex
1878 Leggat, Alex., Mill Place Farm, East Grinstead, Sussex
1889 Leishman, William, of Broomrigg, 52 Noel Street, Colebrooke Row, Islington, London
1875 Lightfoot, H. Le Blanc, Corpus Christi College, Oxford
1901 Lindow, Mark Burns, Ingwell, Moor Row, Cumberland
1891 Lister, Joseph, Fern Cottage, Great Broughton, Cockermouth, Cumberland—*Free Life Member*
1885 Lockhart, Peter, Estates Office, Corby Castle, Carlisle
1885 LONDONDERRY, Most Noble the Marquis of, K.G., Seaham Hall, Seaham Harbour
1896 LONG, Right Hon. Walter H., M.P., Rood Ashton, Trowbridge
1881 Lonsdale, Claud, Rose Hill, Carlisle
1885 LOPES, Sir Massey, Bart., 28 Grosvenor Gardens, London
1889 Lowson, J. G. F., Snitterfield House, Stratford-on-Avon
1888 Lyon, George, Ingatestone, Essex
1878 M'Connell, P., Northwycke, Southminster, Essex—*Free Life Member*
1903 Maconochie, A. W., Westbourne Street, London
1901 M'Conachie, Geo., 1 St Thomas Crescent, Newcastle-on-Tyne
1878 M'Cracken, W., Crewe—*Free Life Member*
1898 M'Creath, James, West Cornwall Creamery, Lelant, R.S.O., Cornwall—*Free Life Member*
1891 Macdonald, Charles, 'The Field' Office, Breams Buildings, London, E.C.

Admitted
1898 M'Dougall, James T., F.E.S., Dunollie, Blackheath, London
1896 Macfie, R. A., Royal Colonial Institute, Northumberland Avenue, London, W.C.
1879 M'Gregor, Alex., Leigh, Lancashire
1900 Macintyre, John J., 52 Fielding Road, Bedford Park, Chiswick, London, W.
1875 Mackay, Thomas, Westwood, Coventry
1893 Mackay, William, Greenhill Farm, Kilmerston, Bath
1898 Mackenna, Fergus, New Barns, Edenbridge, Kent
1897 Mackenzie, W. A., Estate Office, West Dean, Chichester
1874 M'Kerrow, A., Bradshaw House, Bradshaw, Halifax, Yorks
1871 M'Laren, James, 26 Bernard Street, Russell Square, London, W.C.
1880 M'Laren, John, Hunslet, Leeds
1865 M'Lennan, Donald, Radnor Hall, Elstree, Herts
1883 M'Leod, J. M., 2 Hilldrop Road, Camden Road, London, N.
1870 M'Monies, J., Coombelands, Addlestone, Surrey
1870 M'Naughton, D., 79 Mark Lane, London, E.C.
1907 MacWhirter, James J., 14 Chesterfield Gardens, Hampstead, London
1875 Maddison, H., The Lindens, Darlington
1884 Malcolm, John, M.R.C.V.S., Birmingham—*Free Life Member*
1880 Mangin, W. Nangreave, Preston, Chathill
1906 Mann, James H., Pepper Road Works, Leeds
1882 Mann, Robert J., Braighall Fields, Whitchurch, Shropshire
1905 Marsden, H. R., Soho Foundry, Leeds
1868 Marshall, James, Gainsborough
1901 Marshall, James M'L., 29 Queensgate Gardens, London, S.W.
1870 Maxwell, Sir John R. Heron, Bart., Junior Carlton Club, London, S.W.
1894 Meiklejohn, D. W., Wyndyard Park, Stockton-on-Tees
1891 Menzies, Robert, Merton, Thetford
1889 Middleton, T. H., Board of Agriculture, 4 Whitehall Place, London, S.W.—*Free Life Member*
1899 Miller, John, Brookfield, Great Stukeley, Huntingdon
1893 Miller, John M., Milton Court, Polegate, Sussex
1877 Millican, J., Holly Bush, Kirkbampton, Carlisle
1901 Miln, George P., Milnholme, Chester
1900 Mirrlees, Arthur, Checquer House, Ranby, Retford
1873 Mitchell, John, 6 Clarendon Square, Leamington Spa
1861 Montagu of Beaulieu, Lord, Palace House, Beaulieu, Southampton
1903 Montgomery, Hugh, 8 Fenwick Street, Liverpool
1846 Montgomery, John H., 3 Mount Street, London
1878 Moubray, J. M., Sutton Iford, Lewes, Sussex
1880 Moult, John, Royal Buildings, Newcastle-on-Tyne
1877 Mounsey, Wm. R. Lowther, Newton, Penrith
1888 Muir, James, Rubers Law, West-by-fleet, Surrey—*Free Life Member*
1882 Muir, John G., Farmingwoods Hall, Thrapston, North Hants
1886 Munro, J. C., M.F.H., Mancetter Lodge, Atherstone, England
1895 Murray, James, of Traquhair, Manchester and Salford Bank, Manchester

Admitted
1891 Murray, John, B.Sc., Belle Vue, Beeston, Notts—*Free Life Member*
1884 Murray, W. J., Bradford House, Belbroughton, Stourbridge
1896 Ness, John, c/o R. Errington, Victoria Mills, Sunderland
1899 Newton, Thos., The Bent, Warburton, Warrington—*Free Life Member*
1872 Newton, T. H. G., Barrels Park, Henley-in-Arden, Birmingham
1900 Nicholson, Edward Henry, Col. 4th Notts V.B. Sherwood Foresters, Newark-on-Trent
1882 Nickels, John Tetley, The Day House, Shrewsbury
1893 Nisbet, Robt., Lower Haddon, Bampton, Oxon.
1901 Nixon, W., Iwerne Estate, Blandford, Dorsetshire
1860 Norman, William, Sattenham, Milford, Godalming, Surrey—*Free Life Member*
1879 North, G. F., Strathfieldsaye, Mortimer, R.S.O., Berks
1853 Ogilvie, Wm. R., West Ward Cottage, Thursby, Carlisle
1874 Ogilvy, John F., 13 Collingham Gardens, London, S.W.
1872 Oliphant, L. J., Turf Club, Piccadilly, London, W.
1887 Orde, Colin R. Campbell, Ravendale, Godalming, Surrey
1906 Owen, Philip, Newmarket House, Gosforth, Newcastle-on-Tyne
1903 Page, Herbert, Hertford
1894 Parkin-Moore, Wm., Whitehall, Mealsgate, Carlisle
1894 Paterson, John W., Herne Poplar, Toddington, Beds
1857 Paton, A., Norwood, Sydenham, London
1906 Peacock, John T., Lownewport Farm, Silksworth, Sunderland
1897 Peet, John O., B.Sc., Shirehall, Hereford—*Free Life Member*
1888 Perkins, W. F., M.R.A.C., Boldre Bridge House, nr. Lymington — *Free Life Member*
1905 Peter, James, Berkeley Castle Estate Office, Berkeley
1905 Peter, James A., Brown's Mill Farm, Berkeley
1889 Pilkington, Claude M., Wollaton, Nottingham
1884 Pitcairn, D. D., 9 Lebanon Parade, Twickenham, Middlesex
1885 Pollock, Tho., Manor House, Nettlebed, Henley-on-Thames
1893 Powell, J. E., Cambrian Iron Works, Wrexham
1907 Prior, C. L. Prior, Grimblethorpe Hall, Lincoln
1897 Profeit, George W., B.Sc., Estate Office, Charborough Park, Wareham, Dorset
1877 Pudney, Robert L., Winscombe, Somerset—*Free Life Member*
1889 Purefoy, Captain E. B., The White House, Buckingham—*Free Life Member*
1883 Quibell, W. O., Highfield House, Newark
1901 Rabagliati, Duncan S., 1 St Paul's Road, Bradford—*Free Life Member*
1870 Ralston, A. R., Mill Closs, Catterick Bridge, Catterick, Yorkshire
1891 Ramsay, Hon. Chas. Maule, Carlton Club, Pall Mall, London, W.
1892 Rand, John, Westnewton, Kirknewton, Alnwick
1907 Ransome, Bertram C., Orwell Works, Ipswich
1870 Rawline, John D., 44 Clarence Road, Birkdale, Southport

Admitted
1906 Reed, T. Curwen, Hyde Farm, Stroud, Glos
1905 Remington, J. Stewart, Aynsome, Grange-over-Sands, Lancs
1882 Rennie, James, Bowesfield Farm, Stockton-on-Tees
1905 Rice, Henry E. H., Dane Court, Dover
1878 Richardson, R. A., 128 Shiel Road, Newsham Park, Liverpool
1874 Richardson, George W., Landour, The Shrubbery, Weston-super-Mare
1888 Richmond, Jas. G., Globe Works, Southhall Street, Manchester
1905 Rickerby, Joseph, 37 Botchergate, Carlisle
1880 Riddle, Andrew, Yeavering, Wooler
1899 Ridley, Matthew A., Hawkhope, Falstone, Northumberland
1852 Rintoul, Chas., Strawberry Hall, Buxted, Sussex
1886 Robertson, Charles T. A., Little Horringer Hall, Bury St Edmunds—*Free Life Member*, 1888
1864 Robertson, D. G., Homewood, 8 West Terrace, Eastbourne
1900 Robertson, John, Board of Agriculture, 11 Whitehall Place, London, S.W.
1901 Robertson, John G., Croxton House, Lillington Road, Leamington Spa
1900 Robinson, J. F., 17 Victoria Street, Westminster, London
1878 Robinson, Thos., Cargo, Carlisle
1884 Robson, Jacob, Byrness, Otterburn
1873 Rome, Thos., Glebe Cottage, Goring-on-Thames—*Free Life Member*
1903 Rootham, Fred. F., Benacre Estate Office, Pyes Hall, Wrentham, Suffolk
1879 Roscoe, Wm. C., Tilstock, Whitchurch, Shropshire
1870 Ross, J., The Grove, Ravenglass, Carnforth
1899 Roughead, A. J., Welton Lodge, Welton, Brough, E. Yorks
1900 Rushton, John C., County Education Offices, Stafford—*Free Life Member*
1871 Russell, James M., Strawberry Hall, Buxted, Sussex
1897 Sallerthwaite, Ben. H., Castle Park, Lancaster
1871 Salmond, D. S., 53 Coleraine Road, Blackheath, London, S.E.
1888 Scott, Adam, Fawdon, Glanton, Northumberland
1889 Scott, Alex., Whinfell Park, Penrith
1898 Scott, Robert, Wyndham Hotel, Bootle, Liverpool
1872 Selby, B. P., Pawston, Mindrum, Northumberland
1906 Sellar, Gerard Craig, 75 Cromwell Road, London, S.W.
1890 Sessions, Harold, Ifton Manor, nr. Newport, Mon.—*Free Life Member*
1894 Seton, Robert S., The Yorkshire College, Leeds—*Free Life Member*
1893 Shaw, Philip A., Hemmington Hall, Derby
1903 Shepheard-Walwyn, J. E., Estates Office, Corby Castle, Carlisle
1901 Shiers, Geoffrey C., Lexden, Princess Road, Bournemouth, W.
1882 Shirlaw, James, 14 North Lodge Terrace, Darlington
1898 Shuttleworth, Alfred (Clayton & Shuttleworth), Lincoln
1896 Sinclair, Jas., Editor 'Live Stock Journal,' 9 New Bridge St., London, E.C.
1873 ● SINCLAIR, The Right Hon. Lord, 55 Onslow Square, London, S.W.
1885 Slater, And., Redhouse, Durrington, Salisbury

Admitted
1895 Smith, David Lister, Bierley Lane, Dudley Hill, Bradford, Yorks—*Free Life Member*
1900 Smith, Fred., 115 Brook Street, Macclesfield—*Free Life Member*
1904 Smith, George G., British Oil and Cake Mills, Ltd., Cleveland Street, Hull
1872 Smith, Jas. F., Pasture House, Howick, Lesbury, Northumberland
1873 Smith, Wm. Borthwick, C.E., M.R.A.C., "Goodrest," Emsworth, Hants—*Free Life Member*
1892 Solomon, F. O., Dauntsey's Agricultural School, West Lavington, Devizes, Wilts—*Free Life Member*
1881 Somerville, William, M.A., D.Sc., D.Œc., 121 Banbury Road, Oxford—*Free Life Member*, 1887
1887 Stanhope, John Montague Spencer, Cannon Hall, Barnsley, Yorkshire
1869 Statter, T., Stand Hall, Whitefield, Manchester
1885 Steel, Alexander, Southend, Essex
1898 Steel, John, Hampton Barns, Rochford, Essex
1884 Stephen, H. C., Avenue House, Finchley, London
1880 Stephenson, C., V.S., Sandyford Villa, Newcastle
1855 Steuart, Robert, 81 Friern Road, Dulwich, London, S.E.
1899 Stewart, James, Sandbeck Park, Tickhill, Rotherham
1853 Stewart, J. A. Shaw, 48 Chester Square, London, W.
1863 Stewart, Neil P., Plas Lodwig, Bangor, North Wales
1877 Stirling, A., 30 Eccleston Street, London, S.W.
1893 Stirling, John, Gosford Grange, Shifnal, Shrops
1906 Stockley, Wm. T., Rose Villa, Garswood, near Wigan—*Free Life Member*
1893 Stockman, Stewart, M.R.C.V.S., Board of Agriculture, 4 Whitehall Place, London, S.W.
1884 Stordy, Norman, Thurstonfield Tannery, Carlisle
1905 Strawson, George F., 71A Queen Victoria Street, London, E.C.
1895 Sutton, Alfred, Bridekirk, Cockermouth
1906 Sutton, Arthur Warwick, Seed Merchant, Reading
1906 Sutton, Martin John, Seed Merchant, Reading
1865 Swanwick, R., R.A.C. Farm, Cirencester
1894 Taylor, James W., 79 Brook Road, Bootle, Liverpool
1893 Taylor, William, Glen Alva House, Whitecrop Road, Hereford
1891 Thomson, Duncan, Grand Courts, Rayne, Essex
1888 Thompson, Henry, V.S., Aspatria
1899 Thorley, Joe, Oakhill, High Barnet, Herts (of Joseph Thorley, Ltd., London)
1894 Tipper, Charles J. R., 6 Beechwood, The Green, Kendal—*Free Life Member*
1897 Tod, James A., Thirlsey Farm, Hackness, Scalby, R.S.O.
1869 Todd, William, Belmont, 45 Higher Ardwick, Manchester
1889 Toppin, John C., Musgrave Hall, Skelton, Penrith
1890 Townshend, Joseph H., Fellougley, nr. Coventry—*Free Life Member*
1889 Turner, Thos. Warner, Welbeck, Worksop, Notts
1878 Twentyman, J. M., Hawkrigg House, Wigton, Cumberland

Admitted
1877 Unite, John, 291 Edgeware Road, London, W.
1877 VANE, Sir H. R., of Hutton in the Forest, Bart., Penrith
1873†Villiers, F. E., 18 Cadogan Square, London, S.W.
1897 Wakerley, Fred., The Midland Agricultural and Dairy Institute, Kingston-on-Soar, Derby—*Free Life Member*
1900 Wale, Bernard N., Brewood, Stafford—*Free Life Member*
1896 Walker, Frank P., South Hill, Southwell, Notts
1862 Walker, John, "Maryfield," 19 St John's Road, Putney, London, S.W.
1889 Walker, Thomas G., Symonds Hyde, Hatfield, Herts
1873 Wall, Geo. Y., Durham—*Free Life Member*
1882 Wallace, George, 11 Arundel Square, Barnsbury, London, N.
1870 Wallace, Robert, 44 Nunhead Lane, Peckham Rye, London, S.E.
1832 Wallace, R. Hedger, Glamorgan County Council Education Office, Westgate Street, Cardiff
1898 Walters, J. Tudor (Mills & Co.), Granville Road, Leicester
1873 Walton, G. K., Long Compton, Shipston-on-Stour—*Free Life Member*
1894 Ward, Martin H., Col. Gamble's Estate Office, Corporation Street, St Helens, Lancashire—*Free Life Member*
1883 Wardman, Robert, Warwick Bank House, Carlisle
1896 Waters, Arthur, Coopersale, Epping, Essex
1890 Waters, J. C. Dun, Plaish Hall, Church Stretton, Salop
1896 Waterson, D. M., Lupton, Churston, S. Devon
1868 Watt, James, Knowefield, Carlisle
1881 Weber, F. H., Rokeby, Joker's Green, Caversham, Oxon.—*Free Life Member*
1897 Webster, Herbert, Morton House, Fence Houses
1894 WEDDERBURN, Sir W., of Ballendean, Bart., Meredith, Gloucester
1860 Welsh, Jn., Ivy Lodge, Greenhithe, Kent

Admitted
1891 White, W. E. C., Curridge, Mewbury—*Free Life Member*
1894 Whittaker, John D., Oxford and Cambridge Club, Pall Mall, London, S.W.—*Free Life Member*
1899 Whyte, John D. B., Elveden Hall, Suffolk
1900 Wigram, Oswald L., Nord Vue, Armathwaite, Cumberland
1898 Williams, David D., University College of Wales, Aberystwyth—*Free Life Member*
1881 Williams, Professor W. O., Veterinary Department, University, Liverpool
1890 Williamson, Captain Cecil Hedworth, Home Lea, Box, Wilts
1854 Willis, T., Manor House, Carperby, Bedale
1899 Wilson, John, Edenhall, Langwathby, R.S.O., Cumberland
1900 Wilson, Robt., 10 Victoria Street, Newcastle-on-Tyne
1896 Wilson, R. Riddell, 17 Queen Victoria Street, London, E.C.
1892 Wilson, William, Goodyhills, Maryport—*Free Life Member*
1858 Wilson, William, Borough, Sanderstead, Croydon, Surrey
1896 Wilton, James P., 143 Hartington Road, Sefton Park, Liverpool—*Free Life Member*
1899 Winter, Thos., Lotherton Park Farm, Aberford, Leeds
1901 Wood, Chas., Horringer Cottage, Horringer, Bury St Edmunds, Suffolk
1876 Wordsworth, R. W., Whitemoor House, Ollerton, Notts
1898 Wylie, Thos., Ashwell, near Baldock, Herts
1895 Wyllie, David, Timsbury, Romsey, Hants
1896 Young, David, Westover Farm, Clatford, Andover, Hants
1905 Young, James Arthur, 161 Victoria St., Westminster, London
1879 Young, R. W., Billeswell Manor, Litterworth
1878 Young, Wm., Parley Beams Farm, Earls Colne, Essex
1877 ZETLAND, Marquis of, K.T., Aske, Richmond, Yorkshire

IRELAND.

1893 Ballingall, Robt. Rennie, Adare, Limerick
1904 Bland, Hum, Kilquade, Greystones, Ireland
1868 Bruce, Robert, Royal Dublin Society, Dublin
1873 Campbell, Geo., Kilkea, Mageny, Co. Kildare—*Free Life Member*
1892 Campbell, J. R., Department of Agriculture, Dublin—*Free Life Member*
1892 Duncan, James L., Agricultural Station, Clonakilty, Co. Cork—*Free Life Member*
1877 Fennessy, Thos., Grange Villa, Waterford
1902 Fisher, Peter, 296 Shankhill Road, Belfast
1876 Gilchrist, And., Grovedale, Golden Ball, Co. Dublin
1884 Goulding, Sir W. J., "Millicent," Sallins, Co. Kildare
1891 Greenbank, Jonathan C., Camla House, Monaghan
1899 Hinchcliff, Joseph H., Department of Agriculture, Upper Merrion Street, Dublin—*Free Life Member*
1905 Lane, B. H., Rush Hall, Limavady, Londonderry
1876 Maconchy, J. A., Kildare Street Club, Dublin—*Free Life Member*
1892 Mettam, A. E., Veterinary College of Ireland, Dublin
1900 Pimlott, James, Department of Agriculture, &c., 4 Upper Merrion Street, Dublin—*Free Life Member*
1906 Raffan, Jas., Fota Farm, Carrigtwohill, Co. Cork
1896 Robertson, Andrew R., Department of Agriculture, Upper Merrion Street, Dublin—*Free Life Member*
1871 Roy, Fred Lewis, Wellpark, Oughterard, Co. Galway
1902 Simpson, David S., Department of Agriculture, Ballyhaise, Co. Cavan
1900 Strachan, James, Land Steward, Annegrove, Carrigtwohill, Co. Cork
1898 Wade, Thomas, Newcastle West, Co. Limerick—*Free Life Member*
1900 Watson, Walter, Gowran Grange, Naas, Co. Kildare
1892 Wilson, James, jun., Royal College of Science, Dublin—*Free Life Member*
1900 Wood, James, Melfort, Cowper Road, Rathmines, Dublin—*Free Life Member*

THE COLONIES.

Admitted

1898 Anderson, George H., 529 Spence Street, Winnipeg

1908 Angus, Wm., B.Sc., Department of Agriculture, Adelaide, South Australia

1887 Banerjee, N. N., Calcutta—*Free Life Member*

1883 Basu, G. C., 196 Bowbazar St., Calcutta —*Free Life Member*

1876 Bean, William, Rosebank, Winnipeg, Manitoba

1881 Blyth, A. H., Frankfield, Manitoba

1851 Bogie, John, Auckland, New Zealand

1899 Brown, Ernest C., 488 Young Street, Winnipeg, Canada

1876 Brown, J. H., Wairoa, Napier, New Zealand

1864 Brydon, James, Pleasant Point, Timaru, New Zealand

1864 Brydon, Herbert, Langley, Rakaia, *viâ* Christ Church, New Zealand

1879 Brydone, W. S., Dunedin, New Zealand

1874 Burn, Forbes, Coldstream, Hinds, Canterbury, New Zealand—*Free Life Member*

1879 Cantlie, Charles A., Natal

1901 Carlyle-Bell, A., The British Colony, Battleford, Canada

1902 Chirnside, George Thomas, Werribee Park, Melbourne, Australia

1868 Craig, The Hon. R., Chapelton, Jamaica

1870 Craig, Robert, South Africa

1872 Currie, James J., Blinkbonny, Birtle, Manitoba

1894 De la Mothe, Joseph T., Grand Bacolet Estate, St David's, Grenada, West Indies—*Free Life Member*

1900 Denovan, Robt., Dominion City, Manitoba, Canada

1888 Drieberg, Christopher, Principal, Agricultural College, Colombo, Ceylon—*Free Life Member*

1894 Duff, J. K. Mackenzie, South Africa

1894 Duncan, D. J. Russell, Corporation Offices, Port Arthur, Ontario, Canada

1898 Dunn, Wm., Tobacco Creek, Miami, Manitoba, Canada

1901 Edgar, John Ingram, District Veterinary Surgeon, c/o Resident Magistrate, Pietersburg, Transvaal, S.A.

1895 Forrest, James, Cowichan Station, Victoria, British Columbia

1904 Fowlie, Patrick, N.D.A., N.D.D., Natal Creamery, Mooi River, Natal, South Africa

1870 Gordon, R. W., British Columbia (c/o John Gibson, Howford, Peebles)

1874 Hamilton, W. C., Lumsden, Regina, Assa., Canada

1864 Harris, Richard H., Woodside, Papatoitoi, Auckland, New Zealand

1900 Hattrick, J. M., 7 & 9 Bridge Street, Sydney, Australia—*Free Life Member*

1902 Hodson, F. W., Live Stock Commissioner, Department of Agriculture, Ottawa, Canada

1897 Holm, Alex., jun., Experimental Farm, Potchefstroom, Transvaal

1905 Holme, Arthur R., Polela, Natal, S.A.

1872 Irving, Samuel, New Zealand

1902 Jack, J. Noble, Principal, Agricultural College, Elsenberg, Mulder's Vlei, South Africa

1900 Jackson, William, Windsor Castle, Annotto Bay, Jamaica, B.W.I.—*Free Life Member*

Admitted

1893 Knight, John, Mayfield Park, Birkenhead, Auckland, New Zealand

1875 Leithhead, James, Takapau, Hawke's Bay, New Zealand—*Free Life Member*

1893 Little, Jas., jun., Post Office, Clive, Hawke's Bay, New Zealand

1900 Lloyd-Williams, W. R., Department of Agriculture, H.M. Customs Building, Wellington, New Zealand—*Free Life Member*

1885 Lowrie, William, Prof. of Agriculture, Roseworthy, South Australia—*Free Life Member*

1885 Macdonald, A. C., Department of Agriculture, Pretoria, Transvaal—*Free Life Member*

1891 M'Dougal, Jas., Bonnyrigg, St Andrews, New Zealand

1871 M'Dougall, J. W., Peninsular Cottage, Atherley Junction P. O., Ontario, Canada

1884 Marriott, Thos. E., Brookdale, Polela, Natal, S.A.

1897 Mason, William G., Manager, Lobatsi Farms, Lobatsi, Bechuanaland Protectorate, South Africa—*Free Life Member*

1878 Miller, Colin W., Luffness, Mirani, *viâ* Mackay, Queensland

1883 Mollison, James, Deputy Director of Agriculture, Poona, Bombay, India

1880 Moos, N. A. F., Director, Government Observatory, Bombay—*Free Life Member*

1890 Mudie, T. E., City Engineer's Office, Brandon, Manitoba, Canada

1878 Mundell, Walter, Tourisfield, Brandon, Manitoba

1901 Munro, Duncan, Post Office, Martinborough, Wellington, New Zealand

1888 Mutter, Major J. M., Somenos Ranch, Somenos, E. and N. Reg., Victoria, B.C., Canada

1898 Nobbs, Eric A. (Ph.D., Giessen), Department of Agriculture, Cape Town—*Free Life Member*

1890 Potts, George, Grey College, Bloemfontein, Orange River Colony

1875 Pringle, A. T., Tattersall's Chambers, Hunter Street, Sydney, N.S.W.

1898 Rackham, Stanley, Lloydminster, Sask, N.W.T., Canada—*Free Life Member*

1871 Richmond, Thos., The Blue House, Schutz, Ramleh, Egypt

1874 Robertson, William, Watino Road, Pihama, North Island, New Zealand

1859 Robertson, W. M., King Street, Chatham, New Brunswick, Canada

1899 Sampson, Hugh C., P.O. Box 434, Pretoria

1875 Scobie, N. F. Feorlig, Fort-Macleod, N.W.T., Canada

1880 Scott, Charles, South Africa, care of John Scott, Detective Department, Central Police Chambers, Glasgow

1892 Scheult, Louis C., Santa Rosa, Arima, Trinidad—*Free Life Member*

1890 Shaw, Alex., Plume Ranche, Woolchester, Alberta, Canada

1883 Shepherd, John, Desbarats, Algoma, Canada

1895 Smith, A. Rae, Farm Manager, Government School of Agriculture, Elsenberg, Mulder's Vlei, Cape Colony

1907 Smith, Wm., jun., Dairy Expert, Quartermaster-General's Department, Simla, India

Admitted
1898 Trotter, John, The Sudan Experimental Plantation Syndicate, Ltd., Zeidab, Sudan—*Free Life Member*
1873 Turner, Peter, 651 Church Street, Toronto, Ontario, Canada
1874 Walker, R. B., Queensland
1900 Watt, James W., Sintaluta, Sask, Canada
1900 Watt, John A., Sintaluta, Sask, Canada
Admitted
1890 White, Alexander, Wonderboom, Pretoria, South Africa
1879 Wilson, John, jun., Gilbrea, Oakville, County Halton, Ontario—*Free Life Member*
1858 Wotherspoon, Archibald, West Oxford, Canterbury, New Zealand

FOREIGN COUNTRIES.

1880 Aalvik, E. A., Ostenso, Hardanger, Norway
1882 Alexander, A. S., Evanton, Illinois, U.S.A.—*Free Life Member*
1876 Anderson, R. Lang, Manager, The Aboukir Company, Limited, Ramleh, Egypt—*Free Life Member*
1864 Arbuthnott, Hon. Mrs, Norway
1881 Auld, R. C., Bishop Crescent, Chicago, U.S.A.
1868 Baird, Arthur E., Brussels
1842 Booth, James G., Seed Merchant, Hamburg
1878 Bramwell, John, River Plate Trust Loan and Agency Co., Avenida de Mayo, Buenos Ayres—*Free Life Member*
1871 Bruce, George C., Staunton, Virginia, U.S.A.
1864 Cotesworth, Robert, Cannes, France
1875 Crerar, Donald, Estancia San Alonzo, Estacions Bavio, F.C. Ensenada, Buenos Ayres
1883 Croil, Thos., North Western Sledge Co., Millwaukie, Wisconsin, U.S.A.
1874 Cruickshank, George, 243 Warsaw Avenue, Chicago
1899 Dellschaft, A. H., The Aboukir Co., Ltd., Blue House, Schutz, Ramleh, Alexandria, Egypt—*Free Life Member*
1880 Dundas, T. G., 39 North State Street, Chicago
1876 Fleming, D. G., Hacienda de San' Isidro, Villa Coronads, Jiminez, Chihuahua, Mexico
1899 Fraser, George M., Estancia "La Germania," Estancion General Pinton, F.C.O., Argentina
1898 Fraser, Samuel, School of Agriculture, Agricultural Department, Cornell University, Ithaca, New York—*Free Life Member*
1855 French, J., Sortkjar, Kvissel, Denmark
1873 Giglioli, Italo, Director of the Royal Agricultural Station, Rome—*Free Life Member*
1871 Heggie, Henry, Roseburg, Douglas Co., Oregon, U.S.
1896 Lawson, George, Cabana San Blas, Cazon, Buenos Ayres
1876 Logan, J. W., M.I.Mech.E., Representative, P.O. Box 2037, Marshall's Buildings, Johannesburg, S.A.
1879 Mackenzie, Murdo, Trinidad, Colorado, U.S.A.
1883 Macpherson, John, Corner of 27 and J. Streets, San Diego Co., California, U.S.A.
1860 Mein, N. A., Hotel de Emperoure, Boulevard, Dunbanchago, Nice
1861 Morison, James, Topeka, Kansas
1878 Nonnen, J. E., Norway—*Free Life Member*
1893 Peter, John Stewart, San Francisco del Clè, Mansilla, Entre Rios, Buenos Ayres
1866 Shiels, George, Monett, Mo., U.S.A.
1897 Sproat, Hugh, Thurman, *viâ* Mountain Home, Elmore Co., Idaho, U.S.A.—*Free Life Member*
1887 Steele, Daniel, Agricultural Manager, Lake Copais Company, Ltd., Athens Agency, Athens, Greece—*Free Life Member*
1869 Tweeddale, George W., Ivy Hill, Warminster, Nelson County, Virginia, U.S.
1871 Tweedie, Richard, The Forest, Clydesdale Stud Farm, Douglas, Kansas
1895 Vuigner, Raymond, 46 Rue de Lille, Paris
1885 Wallace, Williamson, Egyptian College of Agriculture, Ghizeh, Cairo, Egypt
1852 Watson, William, Beecher Wills, Illinois, U.S.

MEMBERS WHOSE RESIDENCES ARE UNKNOWN.

[*Members knowing the present Address of the following Gentlemen, or being aware of their Death, will please communicate with the Secretary, 3 George IV. Bridge, Edinburgh.*]

Admitted
1882 Aikman, Thomson, late 5 Princes Square, Glasgow
1885 Alcock, John, late Surveyor, Keith
1883 Allan, Gavin, late 54 Old Dumbarton Road, Glasgow
1899 Allison, Alex., late Cult Mill, Ladybank
1893 Amos, John, late Alderston, Haddington
1881 Anderson, W. M., late Belmont, Dalkeith
1899 Ash, P. C., late Alderstone, West Calder
1899 Baillie, Alex., late East Mains of Inglis-ton, Ratho Station
1901 Bain, A. T. N., late 4 Falcon Square, Inverness
1880 Balfour, J. H., late 7 Glencairn Crescent, Edinburgh
1876 Beedie, James, late The Mains, Fraserburgh
1895 Bell, Robt., M.D., late Glenae, Dumfries
1882 Beresford, J. G. M., late of Macbiehill, La Mancha
1882 Bertram, A. D., late Kersewell, Carnwath
1883 Bertram, Hugh, late Edinburgh
1900 Berwick, Wm., late Pathcondie, Collessie
1883 Boden, W. F., late Kinsteary Lodge, Nairn
1893 Brewster, John, late Newhall, Crail
1880 Broad, Anthony, late Edinside Road, Kelso
1881 Buchanan, Angus, late Kilvarie, Connel
1882 Burton, Dr M. B., late Orwell, Lindley, Huddersfield
1882 Cameron, Donald, late Mossfield, Oban
1891 Cameron, John, late Culreach Mains, Nethy Bridge
1891 Campbell, Alex. E., late Duiletter, Dalmally
1880 Chaplin, Captain T. R., late Lawhead House, Carnwath
1881 Chirnside, John, late 48 Albany Street, Edinburgh
1893 Clark, John G., late Mossburnford, Jedburgh
1898 Coles, Douglas, late Drimnatoran, Strontian
1898 Corry, R. P., late Ardveich, Lochearnhead
1890 Craig, James, late The Banks, Newdigate, Surrey
1903 Croll, John, late Solicitor, Aberdeen
1894 Davidson, D. J. Russell, late 29 Victoria Street, London
1872 Dewar, David, late Murrays, Ormiston
1901 Donald, D. J., late Dufftown
1883 Dowall, J. P., late Kelly Bleachfield, Arbroath
1893 Duke, Guy, late Braehead, Kilmarnock
1884 Dunn, James, late Gilling Grange, Richmond, Yorks
1882 Duncan, Robert, late Berwick Farm, Stamford River, Essex
1886 Farish, Jas., late 463 Mile End Road, London, E.
1890 Farmer, A. Douglas, late Kinkell, St Andrews
1904 Findlay, I. B., late Union Street, Aberdeen
1870 Forbes, C. W. L., late Aberfeldy

Admitted
1896 Forrest, T. L., late Bankhead, Alyth
1888 Fowler, John, late 2 Grantly Gardens, Glasgow
1900 Fraser, Alex., late Montrave, Leven
1900 Fulton, James, late Balinoe, Oban
1896 Garden, Norman M'Leod, late Gollanfield
1896 Gilchrist, Wm., late Leuchars, Elgin
1871 Gillespie, Alex., late Balmeadowside, Collessie
1885 Gordon, James G., late Elmwood, Inverness
1890 Gourlay, Henry, late Balingry House, Dundee
1884 Græme, R., late of Garvock, Bridge of Earn
1899 Harrison, William S., late Agricultural College, Aspatria—*Free Life Member*
1905 Hendry, Paul, late Gartmore
1894 Hunter, Jas., late 173 King Street, Aberdeen
1893 Husband, Thomas R., late Bangour, Uphall
1893 Jackson, Thos. D., late Live Stock Salesman, Perth
1895 Jamieson, Robt., late Broughton House, Herne Hill, London
1893 Johnston, George, late Mosesfield, Springburn, Glasgow
1899 Jones, A. W., late Wester Gellet, Dunfermline
1873 Juckes, R. F., late Harley, Much Wenlock—*Free Life Member*
1890 Kennard, Cecil, late Tormore, Broadford, Skye
1803 Kennedy, Daniel, late Kelso
1881 Kerr, Thomas, late Forehill, Caputh
1905 Kirk, Thos., late Mount Melville, St Andrews
1891 Kirwan, Major W. F. Maitland, late of Gelston, Castle-Douglas
1889 Laidlaw, Thomas R., late Chrishall Grange, Royston, Herts
1897 Leighton, John, late of Balglassie, Brechin
1898 Leslie, John, late Ashburton, Devon—*Free Life Member*
1884 Lindsay, James (late Wester Happrew, Stobo), Australia
1890 Lyall, Robert J., late Powis, Montrose
1884 M'Cowan, George, late Glenmanno, Penpont, Thornhill
1841 Macdonald, Lieut.-Gen. Alister M'Ian, late 27A Park Lane, London, W.
1893 Macdonell, Jas. Sidgreaves, late Morar, Arisaig
1899 M'Intyre, Peter, late Prestonhall, Dalkeith
1883 Mackenzie, Colin Lyon, late St Martins, Braelangwell, Invergordon
1896 Mackinlay, James, late Balnahanait, Glenlyon, Aberfeldy
1904 Maclagan, Norman, late Courthill, Kelso
1896 Marjoribanks, Hon. Coutts, late Moniack House, Beauly
1886 Maxwell, Wellwood, late of The Forest, New Galloway
1901 Menzies, Jas., late Conon, Conon Bridge

Admitted
1885 Menzies, John G., late 6 Grosvenor Crescent, Edinburgh
1899 Middleton, John, late 42 George St., Edin.
1893 Milne, John, late Annfield, Cardenden
1894 Mitchell, James S., late St John's Well, Fyvie
1904 Moffat, Jas., late Malcolmstone, Currie
1885 Moir, Robert, late Tarty, Ellon
1893 Morris, Major C. H., late Killundine, Argyllshire
1886 Mukerji, N. G., late Bhowanipur, Calcutta—*Free Life Member*
1870 Mure, Wm. J., late New Club, Edinburgh
1881 Murray, Captain A. B., late 61 Nevern Square, London
1879 Nairne, T. G., late Dunsinnan, Perth
1900 Nicol, Arthur P., late Craigisla, Alyth
1892 Noel, Ernest, late Lydhurst, Haywards Heath, Sussex
1877 Paterson, John, late Meadowspott, Dalkeith
1897 Pattison, Walter, late Wallhouse, Bathgate
1893 Pender, Jas., late Cawdor Cuilt, Maryhill
1882 Pollock, John, late Pollockshaws
1892 Pottinger, Sinclair, late Gremista, Lerwick
1881 Powrie, Archibald, late Lairwell, Perth
1889 Raeburn, Norman, late 49 Manor Place, Edinburgh—*Free Life Member*
1884 Rain, Rev. Thos., late Hutton Manse, Lockerbie
1900 Reid, Wm., late Dunsinnan Estate Office, Perth
1897 Rennie, Wm., late Petterden, Tealing, Dundee
1900 Robertson, Alex., jun., late Lethendry, Cromdale
1882 Russel, James, late Dundas Castle, Queensferry
1889 Russell, Thos., late Kellie Farm, Wemyss Bay
1899 Salomons, P. A., late Reidstone, Drongan
1893 Scott, Chas. C., late Breconside, Moffat
1899 Scott, D. W., late Burnside, Alyth
1889 Scott, Hon. Henry J., late Killboroc, Wigton, Cumberland
1889 Scott, Jas., late Inveralmond House, Perth
1901 Sinclair, Donald, late Dochcarty, Dingwall
1898 Smith, Arch., late Morham Mains, Haddington
1885 Smith, Arthur, late Oakbank Cottage, Kingsgate, Aberdeen
1892 Stephen, D. K., late Commieston, Montrose
1887 Stirling, James, late Tamano, Braco
1885 Syme, David F., C.A., late 31 St Andrew Square, Edinburgh
1895 Thomas, Gwyn R., late West Hampstead, London
1891 Tivendale, James, late Garden Cottage, Cessnock, Galston
1884 Todd, John, late Tinwald Shaws, Dumfries
1894 Torrance, T. A., late Kippielaw, Dalkeith
1889 Tress, George Russell, late Whitelee, St Boswells
1894 Tress, Wm. Maxwell, late Faughill, St Boswells
1888 Vincent, E. H., late Lauder Barns, Lauder
1888 Wallace, John, late 273 Argyle Street, Glasgow
1900 Warden, John S., late Wester Cowden, Dalkeith
1894 Watson, David, late Burnthill, Pitsligo
1884 Watson, W. H., late Ruthven, Coldstream
1894 Watt, Geo., late Coralhill, Fraserburgh
1901 Wight, Walter J., late Dollarbank, Dollar
1896 Will, Alex., late Clepington, Dundee
1884 Williamson, Alex., late Chesterhall, Wiston, Biggar
1888 Wilson, John, late Erskine, Bishopton
1888 Winton, Alex., late Viewhill, Ardersier
1881 Woodroffe, D., late Chase View, Rugeley
1897 Wylie, Alex., late Cravens, Wemington, Lancs

TOTAL NUMBER OF MEMBERS, 6334.

DIPLOMA HOLDERS, FREE LIFE MEMBERS.

Those marked with an * are also holders of the First Class Certificate in Forestry.

By a By-law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma became eligible to be elected Free Life Members of the Society

This arrangement terminated in 1900, when the Highland and Agricultural Society of Scotland and the Royal Agricultural Society of England discontinued the independent Examinations in Agriculture held by the two Societies, and instituted in their stead a Joint-Examination for a National Diploma in Agriculture (N D A)

Admitted
1899 Abram, Laurence, County School, Llandilo, So Wales
1879*Aitken, John M , Norwood, Lockerbie
1882 Alexander, A. S , Evanton, Illinois, U S A
1898 Allan, Robert, Polkemmet, Whitburn
1900 Allison, Herbert W , c/o Mr Short, Home Farm, Ingestre, Stafford
1876 Anderson, R Lang, Manager, The Aboukir Co , Limited, Ramleh, Egypt
1897 Ashby, S F , 110 Liverpool Road, Birkdale, Southport
1873 Ashdown, A H , M R A C , Uppington, Wellington, Salop

1887 Banerjee, N. N , Calcutta
1883*Bardgett, John, 22 Broughton Street, Edinburgh
1896 Barron, James, Heathcote Farm, Warwick
1883 Basu, Giris Chandra, 196 Bowbazar St., Calcutta
1884 Benson, R. A , Duchy of Cornwall Office, Liskeard, Cornwall
1885 Birch, Walter de Hoghton, Hoghton Estate Office, Walton Hall, Preston
1893 Borland, John Kennedy, c/o C Visser, Vendutie Kop, P O Box 27, Jagersfontein, Orange River Colony
1878 Bramwell, John, River Plate Trust Loan and Agency Co , Avenida de Mayo 645, Buenos Ayres
1899 Brown, Ernest C , 208 Good Street, Winnipeg, Canada
1891 Brown, John, Hillhead Farm, Airdrie
1873 Browne, Colvile, M R A C., 2 Plantation Cottages, Hextable, Kent
1900 Bruce, William, B Sc , East of Scotland College of Agriculture, Edinburgh
1873 Brydon, Robert, The Dene, Seaham Harbour
1896 Burkitt, William, Grange Hill, Bishop Auckland
1874 Burn, Forbes, Coldstream, Hinds, Canterbury, New Zealand
1900 Burton, John H , County Education Office, Weston-super-Mare
1882 Buttar, Thos. A , Corston, Coupar-Angus

1873 Campbell, George, Kilkea, Mageny, Co Kildare
1892 Campbell, J R , Department of Agriculture, Dublin
1885 Campbell, Robert J , Cuil, Castle-Douglas
1879 Cannon, James, Urioch, Castle-Douglas
1878 Carr, Robert, Grindon, Norham, Northumberland

Admitted
1887 Carrington, George, M R A C , Missenden Abbey, Great Missenden, Bucks
1884 Clinton, H. E , Pelham, 1 Lion Place, Borthwick Hill, Bath
1899 Cole, James Thomson, Fell Court, Torquay
1891 Coward, T A , Northallerton
1890 Crabtree, Henry, Moss House, Heywood
1879 Craig, John, Innergeldie, Comrie
1880 Craig, William, Corriemuckloch, Amulree
1898 Cryer, John, 182 Cliff Wood Mount, Bradford Road, Shipley, Yorks

1896 Daine, Mrs (*nee* Fraser) Rupert Farm, Huyton, Liverpool
1894 Daine, Herbert S , Woolfall Hall, Huyton, Liverpool
1887 Davies, Edward Smith, Seedgreen Park, Stourport, Worcestershire
1894 De la Mothe, Joseph, Grand Bacolet Estate, St Andrew's Parish, Grenada, West Indies
1899 Dellschaft, Adolf H , The Aboukir Co , Ltd , Blue House, Schutz, Ramleh, Alexandria, Egypt
1886 Dickson, Thos A , Estate Office, Overstone Park, Northampton
1895 Dixon, Albert Alex , Tanwood House, Chaddesley Corbett, near Kidderminster
1888 Drieberg, Christopher, Principal Agricultural College, Colombo, Ceylon
1892 Duncan, James L , Birgidale, Knock, Rothesay
1878 Dunlop, Andrew T. L , Lyonston, Maybole

1873 Elliot, Prof Thomas John, M.R A C., The Pebbles, Glebe Lands, Hunstanton, Norfolk
1882 Ensor, Thomas Henry, 54 South Street, Dorchester

1891*Fleet, W. J , Imatra, King's Road, Bournemouth
1891 Forbes, A C., Armstrong College, Newcastle-on-Tyne
1895*Fraser, Alex , Burnside, Alves, Forres
1896 Fraser, Miss Margaret N (Mrs Daine), Rupert Farm, Huyton, Liverpool
1898 Fraser, Sam., School of Agriculture, Agricultural Department, Cornell University, Ithaca, New York

1900 Galloway, William, Braxfield Road, Lanark

Admitted
1885 Gibb, Robert Shirra, Boon, Lauder
1873 Giglioli, Italo, M R A C, Director of the Royal Agricultural Station, Rome
1889 Gilchrist, D A, Armstrong College, Newcastle on Tyne
1873 Goddard, H R, M R A C, Hammet Street, Taunton
1894 Goodfellow, Alex, High School, Kelso
1881 Gover, Lawford D, Clay Point, Flushing, Falmouth
1895 Greenwood, Thomas, M D, County Asylum, Radcliffe, Nottingham
1892 Greig, Robert Blyth, Agricultural Department, Marischal College, Aberdeen
1898 Gwillam, Robt, Agricultural College, Aspatria

1898 Hacking, Thos, Agricultural School, Bijods Hall, Dunmow, Essex
1887 Haig, Robt, Dollarfield, Dollar
1883 Hamilton, H W, Lilleshall Newport, Salop
1884 Hardy, C W L, Gittesham, Honiton
1899 Harrison, Wm S, late Agricultural College, Aspatria
1900 Hattrick, J M, 7 and 9 Bridge Street Sydney, Australia
1878 Henderson, John, Kingsmere, Harpenden, Herts
1874*Henderson, Richard, Portland Estates Office Kilmarnock
1881 Henderson, W, East Elrington, Haydon Bridge, Carlisle
1896 Hewison, Robert, Agricultural College, Aspatria
1873 Hill, Arthur James, M R A C, St Keverne, Harrow on the Hill
1894 Hill, Henry F, Agricultural College, Aspatria
1899 Hinchcliff, Joseph H, Department of Agriculture, Upper Merrion Street, Dublin
1897 Holm, Alex., jun, Experimental Farm, Potchefstroom, Transvaal
1898*Home, J H Milne Broomlands, Kelso
1886*Hooper, Cecil H, Church House, Shoreham, Sevenoaks, Kent
1897 Howie James L, Clachan, Roseneath, Dumbartonshire
1879 Hunt, A E Brooke, Merton Grange, Slough Bucks
1895 Hurley, George, County Technical Office, Stafford

1888 Inman, A H, care of Glyn, Mills, Currie, & Co, 67 Lombard Street, London, E C
1891 Irving, R J, Balmacneil, Ballinluig

1900 Jackson, William, Windsor Castle, Annotto Bay, Jamaica, B W I
1900 Jardine, Warburton C, 20 Doune Terrace, North Kelvinside, Glasgow
1890 Jeffrey, John J, Blackaddie, Sanquhar
1896 Johnstone, James D, Orange Lane, Montrose
1893 Jones, C B, Durham College of Science, Newcastle on Tyne
1873 Juckes, R F, M R A C, late Harley, Much Wenlock

1875 Kennedy, William, M R A C, Lewes and County Club, Lewes, Sussex

1889 Ledingham, J K, North Plaidy Turriff
1898 Leslie, John, The School of Agriculture, Ashburton, Devon
1896 Linton, Andrew, Nairobi, British East Africa

Admitted
1891 Lister, Joseph, Fern Cottage, Great Broughton, Cockermouth, Cumberland
1900 Lloyd Williams, William R, Department of Agriculture, H M Customs Building, Wellington, New Zealand
1885 Lowrie, Wm, Prof of Agriculture, Roseworthy, So Australia

1876 Maconchy, John Arthur, M R A C, Kildare Street Club, Dublin
1878 M'Connell, Primrose, Northwycke, Southminster, Essex
1878 M'Cracken, William, Crewe
1898 M'Creath, James, West Cornwall Creamery, Lelant R S O, Cornwall
1885 Macdonald, A C, Department of Agriculture, Pretoria, Transvaal
1900 Mackenzie, Edward J, Hilton Farm, Tain
1887 Maitland, Harry Reid, Little Methlick, Methlick
1884 Malcolm, John, M R C V S, Birmingham
1880 Martin, Wm, Dardarroch, Dumfries
1897 Mason, William G, Manager, Lobatsi Farms, Lobatsi, Bechuanaland Protectorate, South Africa
1889 Middleton, T H, Board of Agriculture, 4 Whitehall Place, London, S W.
1878 Milne, John, Inverurie
1886 Moos, N A F, Director, Government Observatory, Bombay
1888 Muir, James, Rubers Law, West Byfleet, Surrey
1886 Mukerji, Nitya Gopal, late Bhowanipur, Calcutta
1891 Munro, Duncan, 3 Dalrymple Pl, Edin
1875 Murdoch, George Burn, M R A C, Gartincaber, Doune
1891 Murray, John, B Sc, Bellevue, Beeston, Notts
1875 Murray, Robert W E, Blackford House, Blackford Avenue, Edinburgh

1899 Newton, Thos, The Bent, Warburton, Warrington
1895*Nobbs, Eric Arthur, Department of Agriculture Cape Town
1878 Nonnen, John Edward, Norway
1873 Norman, Wm, M R A C, Sattenham, Milford, Godalming, Surrey
1882 Norrie William, Cairnhill, Monquhitter, Turriff

1894 Paterson, John Waugh, Herne Poplar, Toddington Beds
1897 Peet, John O, B Sc, Shirehall, Hereford
1888 Perkins, Walter Frank, M R A C, Portswood House, Southampton
1900 Pimlott, James, Department of Agriculture, &c, 4 Upper Merrion Street, Dublin
1899*Potts, George, Grey College, Bloemfontein, Orange River Colony
1877 Pudney, R L, M R A C, Winscombe, Somerset
1889 Purefoy, Captain Edward B, The White House, Buckingham

1898 Rackham, Stanley, Lloydminster, Sack, N W T, Canada
1889 Raeburn, Norman, late 49 Manor Place, Edinburgh
1882*Reid Peter, Port Ellen, Islay
1898 Robb, Daniel, 6 Blythswood Square, Glasgow
1896 Robertson, Andrew R, Department of Agriculture, Upper Merrion St, Dublin

Admitted
1888 Robertson, Chas. T. A., Little Horringer Hall, Bury St Edmunds
1873 Rome, Thomas, M.R.A.C., Glebe Cottage, Goring-on-Thames
1900 Rushton, John C., Rush Slade, Hilderstone, Stone, Staffs

1899 Sampson, Hugh C., P.O. Box 434, Pretoria
1881 Sandison, Marcus, Hempriggs, Wick
1892 Scheult, L. C., Santa Rosa, Arima, Trinidad
1894 Seton, Robert S., The Yorkshire College, Leeds
1890 Sessions, Harold, Ifton Manor, near Newport, Mon.
1878 Sharp, J. J., Ewingston, Gifford
1898 Sim, James, Ness Bank, West Cults, Aberdeen
1895 Smith, David Lister, Bierley Lane, Dudley Hill, Bradford
1882 Smith, E. Hedley, B.L., Whittinghame, Prestonkirk
1900 Smith, Fred., 115 Brook Street, Macclesfield, Cheshire
1888 Smith, J. R. C., Mowhaugh, Kelso
1873 Smith, William B., C.E., M.R.A.C., "Goodrest," Emsworth, Hants
1892 Solomon, F. O., Daunkey's Agricultural School, West Lavington, Devizes, Wilts
1887*Somerville, William, M.A., D.Sc., D.Œc., 121 Banbury Road, Oxford
1897 Sproat, Hugh, Thurman, *viâ* Mountain Home, Elmore Co., Idaho, U.S.A.
1887 Steele, Daniel, Agricultural Manager, Lake Copais Company, Ltd., Athens Agency, Athens, Greece
1891 Stevens, Alex. Buchan, Mains of Kilgraston, Bridge of Earn
1876 Sutherland, Alex., Rampyards, Watten, Caithness

1895 Thomas, Gwyn Reid, late 3 Sandwell Crescent, West Hampstead, London, N.W.

Admitted
1894 Tipper, Charles J. R., 6 Beechwood, The Green, Kendal
1896 Townshend, Joseph H., Fellougley, nr. Coventry
1898 Trotter, John, The Sudan Experimental Plantation Syndicate, Ltd., Zeidab, Sudan

1898 Wade. Thomas, Newcastle West, Co. Limerick
1897 Wakerley, Fred., The Midland Agricultural and Dairy Institute, Kingston-on-Soar, Derby
1900 Wale, Bernard N., Brewood, Stafford
1896 Walker, F. P., South Hill, Southwell, Notts
1873*Wall, G. Y., M.R.A.C., Durham
1878 Wallace, Prof. Robert, University, Edinburgh
1873 Walton, George Kent, Long Compton, Shipston-on-Stour, Warwickshire
1894 Ward, Martin Hammond, Col. Gamble's Estate Office, Corporation Street, St Helens, Lancashire
1883 Watson, H. A., U.F. Manse, Forres
1881 Weber, F. H., Rokeby, Joker's Green, Caverham, Oxon.
1894 Weir, James, Woodilee Farm, Lenzie
1891 White, W. E. C., Carridge, Newbury
1894 Whittaker, John D., Oxford and Cambridge Club, Pall Mall, London, S.W.
1898 Williams, David D., University College of Wales, Aberystwyth
1892 Wilson, James, jun., Royal College of Science, Dublin
1879 Wilson, John, jun., Gilbrea, Oakville, Ontario
1892 Wilson, William, Goodyhills, Maryport
1896 Wilton, James P., 143 Hartington Road, Sefton Park, Liverpool
1900 Wood, James, Melfort, Cowper Road, Rathmines, Dublin
1882 Wright, Robert P., 6 Blythswood Sq., Glasgow

NUMBER OF FREE LIFE MEMBERS, 180.

HOLDERS OF FIRST-CLASS CERTIFICATE IN FORESTRY, FREE LIFE MEMBERS.

Also those in the above list marked with an *.

1895 Annand, John F., Agricultural College, Newcastle-on-Tyne
1892 Baillie, William, The Nurseries, Haddington
1895 Davidson, William, Margam, Port Talbot, So. Wales
1897 Guthrie, Patrick Hugh, c/o Thomas Guthrie, M.D., 7 Church Road, Tunbridge Wells
1892 Inglis, Alex., Estate Office, Howcaple Cottage, Ross-on-Wye, Herefordshire
1892 Loney, Peter, 6 Carlton Street, Edinburgh
1892 Menzies, John C., Maritime Buildings, Dock Street, Dundee
1901 Rabagliati, Duncan S., 1 St Paul's Road, Bedford
1892 Robertson, William, Blinkbonny, Earlston
1903 Scott, Frank, Dumfries House Mains, Cumnock
1906 Stockley, William T., Rose Villa, Garswood, near Wigan
1892 Wilson, John Hardie, D.Sc., F.R.S.E., St Andrews

TOTAL NUMBER, 25.

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